

ANNOUNCEMENTS 1970-71



North Central Campus

Westville

PURDUE UNIVERSITY BULLETIN

University Calendar

1970

SEPTEMBER							NOVEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
			1	2	3	4	5						
6	7	8	9	10	11	12	1	2	3	4	5	6	7
13	14	15	16	17	18	19	8	9	10	11	12	13	14
20	21	22	23	24	25	26	15	16	17	18	19	20	21
27	28	29	30				22	23	24	25	26	27	28
							29	30					
OCTOBER							DECEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
					1	2				1	2	3	4
4	5	6	7	8	9	10	6	7	8	9	10	11	12
11	12	13	14	15	16	17	13	14	15	16	17	18	19
18	19	20	21	22	23	24	20	21	22	23	24	25	26
25	26	27	28	29	30	31	27	28	29	30	31		

1971

JANUARY							MAY						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
						1							1
3	4	5	6	7	8	9	2	3	4	5	6	7	8
10	11	12	13	14	15	16	9	10	11	12	13	14	15
17	18	19	20	21	22	23	16	17	18	19	20	21	22
24	25	26	27	28	29	30	23	24	25	26	27	28	29
31							30	31					
FEBRUARY							JUNE						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
		1	2	3	4	5				1	2	3	4
7	8	9	10	11	12	13	6	7	8	9	10	11	12
14	15	16	17	18	19	20	13	14	15	16	17	18	19
21	22	23	24	25	26	27	20	21	22	23	24	25	26
28							27	28	29	30			
MARCH							JULY						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
		1	2	3	4	5					1	2	3
7	8	9	10	11	12	13	4	5	6	7	8	9	10
14	15	16	17	18	19	20	11	12	13	14	15	16	17
21	22	23	24	25	26	27	18	19	20	21	22	23	24
28	29	30	31				25	26	27	28	29	30	31
APRIL							AUGUST						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
						1							1
4	5	6	7	8	9	10	8	9	10	11	12	13	14
11	12	13	14	15	16	17	15	16	17	18	19	20	21
18	19	20	21	22	23	24	22	23	24	25	26	27	28
25	26	27	28	29	30		29	30	31				

First Semester

- September 16
Classes begin
- November 24
Thanksgiving vacation begins
- November 30
Classes resume
- December 19
Christmas vacation begins
- January 4
Classes resume
- January 16
Classes end and reading period begins
- January 19
Final exams begin
- January 27
Semester ends

Second Semester

- February 8
Classes begin
- April 3
Spring vacation begins
- April 12
Classes resume
- May 29
Classes end and reading period begins
- June 1
Final exams begin
- June 9
Semester ends
- June 15 (tentative)
Commencement

Summer Session, 1971

- June 21-August 13
Regular 8-week Session
No classes on July 5

PURDUE UNIVERSITY BULLETIN

Volume 70

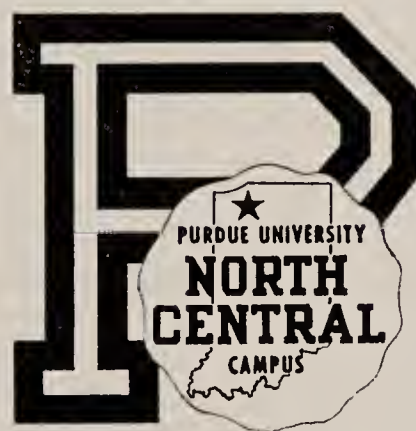
April 25, 1970

Number 18

Second class postage paid at Lafayette, Indiana. Issued by Purdue University 22 times a year: three times each in January, February, and December, twice in March, April, May, and June, once each in July, August, September, October, and November.

North Central Campus

Announcements for the Year 1970-71



WESTVILLE, INDIANA

PUBLISHED BY THE UNIVERSITY

North Carolina

1890-1891

1890-1891



1890-1891

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PURDUE UNIVERSITY

Regional Campus Administration

West Lafayette, Indiana

OFFICERS OF ADMINISTRATION AND INSTRUCTION

Administrative Officers

FREDERICK L. HOVDE, B.Ch.E., M.A., D.Sc., LL.D., D. Eng.,
D.H.L., D.C.L., Pd.D., D.Ed.....President
LYTLE J. FREEHAFFER, B.A.....Vice President and Treasurer
GEORGE A. HAWKINS, Ph.D.....Vice President for Academic Affairs
FREDERICK N. ANDREWS, Ph.D., D.Sc.....Vice President for Research and
Dean of the Graduate School
DONALD R. MALLET, Ph.D.....Vice President for Student Services
C. H. LAWSHE, Ph.D.....Vice President for Regional Campus Administration

Regional Campus Administration

G. W. BERGREN, M.S.M.E.....Administrative Dean for Academic Affairs
N. M. PARKHURST, M.S.....Registrar
J. E. THATCHER, B.S.B.A.....Director of Regional Campus Business Affairs
D. A. SCOTT, Ph.D.....Administrative Dean for Development
H. W. WHITE, M.S.....Director of Admissions

North Central Campus Administrative Staff

ROBERT F. SCHWARZ, M.S.....Dean and Director
JAMES R. BLACKWELL, M.A., M.B.A.....Assistant Dean
DAVID P. KONZELMANN, M.S.....Admissions Officer
WILLIAM C. BOYD, M.Mus.....Coordinator of Continuing Education
JOHN K. BLACK, B.S.I.M.....Business Manager
JOHN J. WAGLIARDO, M.Ed.....Student Affairs Officer
RICHARD G. MEHLER, M.S.....Registration Officer
GEORGE W. BACK, B.S.....Bursar
BRUCE E. TURNER, A.A.S.....Supervisor, Administrative Data Processing

General Information

PURDUE UNIVERSITY is the Indiana link in a nationwide chain of 68 land grant colleges and universities. It is a people's university grown out of the demand of the American people that higher education be the birthright of the many, not the privilege of the few.

Long pre-eminent in agriculture, engineering, and science, Purdue has more recently become strong in the humanities and technology.

The year 1969 marked the centennial of Purdue University. From an institution of six instructors and 39 students, Purdue has grown to a major university with a faculty of 2,100 and a student body of more than 37,000 on five campuses.

LOCATION

Purdue University has, in addition to its main campus in West Lafayette, established a series of regional campuses for the purpose of offering educational opportunities in the major population areas of Indiana. The new North Central Campus is an outgrowth of the former Barker Memorial Center which was located in Michigan City. The North Central Campus serves communities in the north central part of the state. It is located on a 216-acre site at the junction of the Indiana Toll Road and U. S. 421 at Westville.

HISTORY

Following World War II Purdue University started offering courses in facilities loaned the University by the Michigan City and LaPorte schools. The programs in each of these areas grew, and in 1948 the Barker Welfare Foundation made available to the University the John Barker mansion. All of the area classes were consolidated in this fine old structure in the spring of 1949. Through the 1950's enrollments at the Barker Memorial Center continued to grow, as did the population of the north central region of the state. By the early 1960's it was evident that this part of the state was due for a population boom and significant industrial expansion, and Purdue began to make plans for a new regional campus that could more adequately serve the area.

In May of 1962 Purdue University, through the Ross-Ade Foundation, purchased 160 acres in LaPorte County at a location that could best serve the Tri-City area of LaPorte, Michigan City, and Valparaiso.

With the site available, serious planning started on the development of the first building for the new campus. This building, containing 90,000 square feet, provided modern academic facilities when it opened its door in September of 1967.

In the short span of time since 1967, the North Central campus has undergone many changes. They are all indicative of the rapid growth of the area it serves, and the increasing educational demands the campus must meet.

Two additional parcels of land have been added to the original holding of 162 acres making a total acreage of 216 acres.

In September, 1968, construction was begun on a \$750,000 addition on the east side of the building. One year later the addition was ready for occupancy.

In conjunction with the addition, 7,000 square feet of space in the basement of the original structure was completed. It now houses the data processing equipment and classrooms, student activities space, and the equipment for TV reception and transmission.

In 1969, the Indiana General Assembly appropriated funds for construction of a second building which is currently being planned.

ORGANIZATION

The North Central Campus operates as an integral part of Purdue University. Faculty members hold their appointments in Purdue departments and teach courses under departmental control. Course numbers and content are the same for all campuses of the University. Faculty members receive promotion through a university-wide promotion system.

PURPOSE AND FUNCTION

Purdue University North Central Campus is dedicated to service in the land grant tradition. As a regional campus, Purdue North Central continues this tradition by bringing educational opportunities of a great University to a constantly increasing number of students who might otherwise not be able to share the benefits of the University.

It is the function of the Purdue North Central Campus to provide courses and programs for regular full-time university students working toward degrees. At the same time, it is also the purpose of the institution to make similar opportunities available to part-time students, most of whom are pursuing their educational objectives in the evening.

As a member of the community of northern Indiana, Purdue North Central has a strong obligation to provide educational opportunities, both credit and non-credit, related to the nature of the population and the social, economic, and industrial development of the area. In accordance with the long-standing policy of the Board of Trustees of Purdue University, all educational services and programs of the University are available and open to all academically qualified individuals without any discrimination whatsoever with respect to race, creed, and national origin.

PROGRAMS

Although academic work at a number of different levels is offered at Purdue North Central Campus, primary emphasis is on freshman and sophomore curricula requirements offered by the University which lead to a Bachelor of Science or Bachelor of Arts degree.

Two-year, terminal, associate-degree curricula in nursing and various fields of technology are also a major part of the offerings.

Selected graduate courses in a limited number of subject-matter fields, primarily to serve the needs of area teachers, are regularly scheduled at the campus.

Programs, conferences, and short courses, mostly non-credit, related to the interests of the people in the communities served by the Purdue North Central Campus are offered through the Office of Continuing Education.

A nondegree status is available to students who are either unsure of themselves or their goals, or to those who are interested in taking a course or two for personal benefit.

In either case this provides a means of selecting courses from several fields without making a specific commitment to a particular curriculum of study.

Many students who do not plan to complete a degree at any of the campuses of Purdue University use the North Central Campus to obtain one or two years of credits for transfer to other universities. Since the work taken at the North Central Campus carries regular Purdue University credit, transferability to other universities presents no problem.

Admission

GENERAL REQUIREMENTS

ALL PERSONS wanting to take advantage of the opportunity for higher education at the North Central Campus of Purdue University must file an application for admission. Requests for information and application forms should be addressed to the Office of Admissions, Purdue University, North Central Campus, Junction U. S. 421 and Indiana Toll Road, Westville, Indiana 46391. Students pursuing the baccalaureate and associate degree programs must be high school graduates. A prospective student should complete the application according to instructions and then forward the form to the high school from which he is to be or already has been graduated. The high school should then complete the application and return it to the Office of Admissions, Purdue North Central Campus, Junction U. S. 421 and Indiana Toll Road, Westville, Indiana 46391. High school students should make application during their seventh semester of high school, or as soon as possible thereafter. High school graduates should make application immediately. This enables the University to evaluate fully an applicant's eligibility for consideration and to notify the applicant at an early date of the action taken, thus allowing the applicant to make his educational plans.

An individual's eligibility for consideration will depend upon many factors, among which are: (1) subject matter requirements for the school or program to which he is applying; (2) high school class standing; (3) College Entrance Examination Board test results; (4) high school comments and recommendations; (5) previous college work, if any; and (6) other personal information.

1. Subject Matter Requirements—The following table shows the minimal requirements for each school within the University.

Although meeting the minimum subject matter requirements may qualify a student for consideration for admission, it may not qualify him to meet the

competition of his classmates. Individuals with one required subject deficiency in their high school background may be eligible for consideration if they rank in the top one-third of their high school graduating class and are otherwise well qualified.

High school students who desire to study engineering, mathematics, chemistry, or physics should establish credit in the following high school subjects in addition to the minimum requirements in order to graduate in eight semesters: a fourth semester of algebra and a full year of both physics and chemistry.

- 2. High School Class Standing (Indiana residents)—Preference is given to applicants in the upper half of their high school graduating class. Applicants who rank in the lower half but *above* the lowest third (33rd percentile to 50th percentile) may be given consideration for admission if additional factors indicate that they have a reasonable chance for success at Purdue.

SUBJECT MATTER REQUIREMENTS

Curricula	High School Graduation	1 Unit Algebra	½ Unit Advanced Algebra	1 Unit Plane Geometry	½ Unit Trigonometry	1 Unit Laboratory Science	3 Units English	1 Unit Social Studies	Total of Not Less Than 15 Units
Agriculture and Forestry	x	x		x		x	x	x	x
Engineering	x	x	x	x	x	x	x	x	x
Home Economics	x	x		x		x	x	x	x
Physical Education (Men)	x					x	x	x	x
Science	x	x	x	x	x	x	x	x	x
Humanities, Social Science, and Education	x	x		x		x	*	x	x
Industrial Management	x	x	x	x	x	x	x	x	x
Industrial Education	x	x		x		x	x	x	x
Technology (2 years)	x	x		x		x	x	x	x
Pharmacy	One year of prepharmacy in School of Science								
Veterinary Science and Medicine	Two years of preveterinary in School of Agriculture								

* Four units required

By 1971 two units (years) of foreign language will be required of all students entering the HSSE program. Presently 96% have two units or more.

3. College Entrance Examination Board (CEEB) tests—All applicants who have not recently completed a full year of college study are required to submit their results on the Scholastic Aptitude Test (SAT) and achievement tests in English, mathematics, and chemistry (students who have not had chemistry may substitute physics or biology). High school students should take the SAT in May of their junior year and the achievement tests in March or May of their senior year. Complete information concerning CEEB testing is available at most high schools, or persons may write directly to: College Entrance Examination Board, Box 955, Princeton, New Jersey 08540. High school graduates who do not file their application in time to arrange for the required tests should contact the Office of Admissions immediately.

On the basis of the factors considered, action on the individual's application may be one of the following:

1. Granted unqualified regular admission—this means that the applicant has met all entrance standards and requirements for admission.
2. Admitted unclassified (on probation)—this applies to the applicant whose academic background and preparation does not meet the entrance standards and/or requirements, but who the University feels has a reasonable chance of gaining regular admission at a later date.
3. Admission denied or postponed until an adequate academic background and preparation can be demonstrated.

Any admission to the University is provisional pending the receipt of all required student information. The University reserves the right to cancel any admission if a student fails to provide all necessary credentials.

NONRESIDENT ADMISSION

Out-of-state applicants must complete the same general requirements as Indiana residents. In addition, nonresident applicants should rank in the highest quarter of their high school graduating class or in the highest quarter of the College Entrance Examination Board SAT test in order to be eligible for consideration. Students who are not in the highest quarter but who are in the upper half of their class (50th percentile to 75th percentile) may be given consideration. Nonresident transfer students must have a "B" average in all previous college work (see "Transfer Students" below).

TRANSFER STUDENTS

An applicant transferring from another college or university must fulfill the following requirements in order to be considered for admission:

1. Submit an application for admission on the prescribed form through the high school from which he was graduated, including the College Entrance Examination Board test results.
2. Forward an official transcript of work done in institutions previously attended to the Office of Admissions at the North Central Campus.
3. Indiana Residents only—Have a "C" average in all work done in institutions previously attended. Persons who do not have a "C" average but show academic potential may be given consideration.
4. Nonresidents only—Have a "B" average in all previous college work.

Credit earned at other institutions with the grade of "C" and above will be evaluated in terms of how it fulfills the graduation requirements at Purdue University. Evaluation of credit is completed after a student is admitted to the University.

NONDEGREE STUDENTS

Persons who desire to take advantage of the instruction in any of the departments of the University without undertaking one of the regular plans of study and without becoming a candidate for a degree may be admitted as nondegree students. Such students must present evidence that they are prepared to undertake the work desired and must progress satisfactorily in their work.

Admission as a nondegree student is for one semester only and any further enrollment must be approved by the Office of Admissions. A maximum of 11 credit hours may be taken in any one semester and a maximum of 24 credit hours may be taken while classified as a nondegree student.

A personal interview is required with a member of the Office of Admissions staff prior to admission as a nondegree student. Any student who is registered in another college or university and wishes to attend Purdue during the same semester must submit a letter from the other institution approving the specific courses to be taken at the North Central Campus. All students who have been previously enrolled in another institution must have a letter of good scholastic and social standing on file with the Office of Admissions prior to enrollment. Application for admission as a nondegree student should be made to the Office of Admissions at the North Central Campus.

REENTRY STUDENTS

Any person in good standing who has formerly attended Purdue but has not been in attendance for a semester or more must submit an application for reentry. Each individual situation will determine the status of the person's eligibility for reentry.

READMISSION OF STUDENTS

Any person who has been formally dropped from the University for academic reasons and wishes to reenter must make application for readmission to the Faculty Committee on Scholastic Delinquencies and Admissions. Forms for initiating this procedure are available in the Dean of Men's Office at the West Lafayette Campus, or in the Student Affairs Office at the North Central Campus.

ADVANCED CREDIT

The University wishes to give recognition in the form of advanced standing and credit to students who have successfully completed college level work in their high schools. There are two basic ways in which credit may be established:

1. College Board Advanced Placement Tests—Students with advanced training in a particular subject area should take the appropriate examination and have the results forwarded to Purdue.
2. Purdue Advanced Credit Examinations—A number of students may be invited to take special examinations in various subject matter areas as

determined by evidence of competency in CEEB testing and high school work.

Advanced standing and credit should not be confused with placement. Placement involves having students start at the correct level of a course within the freshman sequence. High school record and College Board SAT and Achievement test results are employed in making these placements. Placement involves no advance credit.

AUDITING CLASSES

Courses may be audited. No grades or credits are received. Attendance in class is permissible when the regular class fees are paid and the individual has declared himself as a visitor.

RESERVE OFFICER TRAINING

Male students planning to transfer to the West Lafayette Campus are now eligible for a new two year Advanced ROTC Program leading to a commission in the Air Force, Army, or Navy. The program is available to anyone having four full academic semesters remaining on the West Lafayette Campus, including graduate school.

Students applying for this program and accepted by the service concerned attend a six week summer training camp during the summer immediately preceding their planned entry into ROTC classes, which may be either in the fall or spring semester. This six week training substitutes for the first two years of basic ROTC, and for Air Force Cadets the summer camp is normally attended between the junior and senior years. Students are paid approximately \$120 during this six weeks plus transportation, housing, and all meals.

Two-year students receive the same benefits as four-year ROTC cadets or midshipmen. These include draft deferment, \$50 per month allowance, free uniforms, and free military textbooks. Flight training is available in the last year for those who are interested and qualify. This consists of about 36½ hours of flight instruction and 35 hours of ground school at no cost to the student. Upon completion the student may be granted a private pilot's license.

There is no obligation incurred in applying for this program, taking the examinations (and in the case of the Air Force and Navy attending the six-week summer training). Applications are accepted at any time up to about March 1 preceding the six-week summer training.

For further information and additional details you may call or write:

Professor of Military Science
U. S. Army ROTC
Purdue University
West Lafayette, Indiana 47907
Telephone: 749-2808

Professor of Aerospace Studies
U. S. Air Force ROTC
Purdue University
West Lafayette, Indiana 47907
Telephone: 749-2614

Professor of Naval Science
U. S. Naval ROTC
Purdue University
West Lafayette, Indiana 47907
Telephone: 749-2805

Registration

ADVANCED REGISTRATION

CURRENT STUDENTS should preregister for fall, spring, and summer sessions at announced times. New students should preregister at the times specified by the registration officer. Advanced registration eliminates standing in line and assures preferential scheduling.

DELAYED REGISTRATION

For students who are unable to preregister, a registration period is held just prior to the beginning of classes. Consult the current semester schedule for dates and times.

LATE REGISTRATION

The late registration period for the fall and spring semesters ends one week after the first day of classes. In the summer session, the late registration period closes three days after the first day of classes. Late registration fees are explained on page 15.

DROPPING AND ADDING COURSES

A student may add a course to his schedule only during the first week of classes (first three days of summer school). In order to effect a withdrawal from any class, a student must notify the Registration Office at the time of withdrawal. Discontinuance of class attendance is not the basis for withdrawal, and students who do not notify the office when they plan to withdraw will be given a failing grade in each course involved. To drop a course, consult the fee refund schedule on page 15 and the directed grades explanation on page 16.

TRANSFER OF ENROLLMENT TO THE WEST LAFAYETTE CAMPUS

Upon the completion of any semester or summer session a student may transfer his enrollment from the North Central Campus to the West Lafayette Campus. To initiate this process the student must report to the registration officer and complete the necessary forms. Following this procedure he will receive an "Authorization for Enrollment" form from the West Lafayette Campus along with instructions for registration. Transfer students must return the student health form to the Health Center before registering at the West Lafayette Campus. Only students attending on regular status may transfer to the West Lafayette Campus. It is not recommended that a student transfer at mid-year.

Student Services

GENERAL COUNSELING

COUNSELING PERSONNEL are available for consultation about any matters of personal or general concern. Assistance is available in such matters as financial aid, job placement, campus activities, housing, and part-time employment.

Faculty advisers are assigned to assist each student to work out a program of study that will include all required courses and a wise choice of electives.

Students who have enrolled at Purdue North Central and who plan to transfer to a campus other than a Purdue campus, should notify their adviser of such intention.

Advisers will then be able to assist the transferee in planning a program that will be acceptable to both Purdue North Central and his future school.

Students should bring a catalog of the institution to which they intend to transfer whenever they meet with their adviser.

In some instances the Purdue North Central library maintains catalogs of other universities. Students should ascertain whether or not a current copy is available. If not, they should procure one from the registrar of their intended university.

FINANCIAL AID

Scholarships

No student may be considered for financial assistance until he has been admitted to the University. High school students who plan to attend Purdue should apply for admission after completion of the junior year and arrange to take the appropriate College Entrance Examination Board Tests in May of that year in order to insure early consideration of their requests for financial aid.

Students should make clear when filling in the application for financial aid that they plan to attend the North Central Campus. Most scholarship applicants will be notified of the action on their applications before their graduation from high school.

National Defense Loans

Entering freshmen follow the same procedure outlined for acquiring scholarships except that requests for loan applications should be directed to the Student Affairs Officer, Purdue North Central Campus, Junction U. S. 421 and Indiana Toll Road, Westville, Indiana 46391.

Aid for Current Students

Financial aid in the form of scholarships and loans is available for students already enrolled at the North Central Campus.

STUDENT EMPLOYMENT

Many area industries list their part-time job opportunities with the Student Affairs Office. Students who need a part-time job to help finance their education should register with the student affairs officer.

Students whose families cannot contribute a significant portion of the cost of educational expenses may qualify for the Work-Study Program of the Higher Education Act of 1965.

INSURANCE

Low cost University accident and health insurance similar to the policy offered at the West Lafayette Campus is offered annually to all students carrying an academic load of eight hours or more. Students may take advantage of the opportunity at the beginning of each semester.

STUDENT ACTIVITIES

Purdue encourages its students to participate in student activities in the belief that membership in an organization not only provides a broader educational base for the individual, but also adds wider experience to his personal assets. Many students find an opportunity to convert classroom theory into practical use in this manner. A number of clubs and organizations are active at the North Central Campus. The clubs are generally self-directed and draw on the faculty for sponsorship and advice. Any registered student is eligible to participate in the activity program.

University Fees

FEES ARE SUBJECT to change by the Board of Trustees without notice. All fees are payable at the time of registration each semester.

Course Fees. Purdue North Central has a fee structure different from that at the West Lafayette Campus. Fees are based on an established amount per credit hour, plus a laboratory fee if the course includes laboratory work.

	Resident	Non-Resident
Undergraduate	\$20 per credit hour plus \$5 per lab hour	\$40 per credit hour plus \$5 per lab hour
Graduate	\$25 per credit hour plus \$5 per lab hour	\$50 per credit hour plus \$5 per lab hour

N.B.—Undergraduate students pay undergraduate fees; graduate students pay graduate fees regardless of the course number or the objective for which the course is taken. (A graduate student is one who has been awarded a baccalaureate degree.)

Costs for two semesters for full-time undergraduate students:

	Indiana Residents	Nonresidents
University fees*	\$710	\$1350
Books and supplies	100	100
Total	<u>\$810</u>	<u>\$1450</u>

This total does not include the cost of transportation, housing, and meals which will depend upon an individual's own desires.

Late Registration Fees.

\$5 per course during the first week of classes with a maximum of \$10.

Breakage Fees. Course fees include the cost of normal breakage and wear and tear on equipment. An additional charge will be levied against individuals for excessive waste, loss, or breakage that may occur. Such special charges must be paid before course credit will be given.

Diploma Fees. All students must pay a \$10 diploma fee not less than 30 days before the close of the semester in which they expect to complete their work for an associate degree.

Refunds. Course fees will be refunded under any one of the following conditions:

<i>Period of Withdrawal</i>	<i>Refund Percentage</i>	
	<i>Semester</i>	<i>Summer Session</i>
First week	100	100
Second week	60	40
Third week	40	0
Fourth week	20	0
Fifth week	0	0

To be eligible for a refund, the student must notify in person the registration officer and complete the necessary withdrawal procedures.

Special Examination Fees. To establish credit by examination, a nondegree student or a student currently enrolled carrying less than 12 credit hours must pay a fee of \$25 per course.

Withdrawal. In order to effect a withdrawal from any class, a student must notify his assigned faculty advisor and registration officer at the time of withdrawal. Discontinuance of class attendance is not the basis for withdrawal, and students who do not notify the registration office when they plan to withdraw will be given a failing grade in each course involved.

* Varies slightly depending upon the courses selected.

Grading

ASSIGNING OF GRADES

INSTRUCTORS WILL ASSIGN each student a grade for each course in which he is enrolled at the close of a session. The student shall be responsible for the completion of all required work by the time of the last scheduled meeting in the course unless his assignment to the course has been properly cancelled. The grade shall indicate the student's achievement with respect to the objectives of the course.

For Credit Courses:

A—highest passing grade.

B

C

P—Passing grade for the pass/not pass option.

D—lowest passing grade; passing minimal objectives of the course.

E—conditional failure; failure to achieve minimal objectives, but only to such limited extent that credit can be obtained by examination or otherwise without repeating the entire course. This grade represents failure in the course unless and until the record is duly changed within one semester. It cannot be changed to a grade higher than a "D."

F—failure to achieve minimal objectives of this course. The student must repeat the course satisfactorily in order to establish credit in it.

N—not passing for the pass/not pass option. Issued when the student's grade would be a "D" or "F" under the letter grade option.

The Pass/Not Pass Option: The pass/not pass option provides students with the opportunity to broaden their educational foundations with minimal concern for grades earned. The option is open to all students in the University subject to the regulations of the school in which the student is enrolled. Subject to the regulations of his school, a student may elect this option in any course which does not already appear on his academic record and in which he is otherwise eligible to enroll for credit with letter grade. A student may not elect this option for more than twenty percent of the total credit hours required for his graduation.

A student who is enrolled in a course under this option has the same obligations as those who are enrolled in the course for credit with letter grade. When the instructor reports final grades in the course, he will report that any such student who would have earned a grade of "A," "B," or "C" has passed the course, and that any other such student has not passed.

For Zero Credit Courses (including thesis research but not including laboratory portions of courses in which, for purposes of scheduling, separate course designation and separate class cards are used for the laboratory sections):

S—satisfactory; meets course objectives.

U—unsatisfactory; does not meet course objectives.

For Incomplete Work, either credit or noncredit:

O—incomplete; no grade; a temporary record of work which was interrupted by unavoidable absence or other causes beyond a student's control, and which work was passing at the time it was interrupted. An instructor may require the student to secure the recommendation of the student affairs officer that the circumstances warrant a grade of incomplete. On the record a grade of "O" will be equivalent to a "W" unless and until the record is duly changed within one semester or the next semester the course is offered.

OP—incomplete; for pass/not pass option. Has the same provisions as the "O" for letter grade option.

Directed Grades. The registration officer is directed to record the following grades and symbols under special circumstances:

W—withdrew; a record of the fact that a student was enrolled in a course and withdrew or cancelled the course after the last date for late registration and adding courses.

WF—withdrew failing; a record of course cancellation after the last date for cancelling a course without grade, at which time, according to a statement from the instructor, the student was not passing in his work. This grade counts in all respects as a failing grade.

A grade of "WF" may be directed by the dean of men, the dean of women, or the Committee on Scholastic Delinquency and Readmission when a student is dropped from a course for serious scholastic delinquency.

GOOD STANDING

For purposes of reports and communications to other institutions and agencies and in the absence of any further qualification of the term, a student shall be considered in good standing unless he has been dismissed, suspended, or dropped from the University and has not been readmitted.

SCHOLARSHIP INDEXES

The scholarship standing of all regular students enrolled in programs leading to an undergraduate degree shall be determined by two scholarship indexes, the Semester Index and the Graduation Index.

1. The Semester Index is an average determined by weighting each grade received during a given semester by the number of semester hours of credit in the course.
2. The Graduation Index is a weighted average of all grades received by a student while in the curriculum in which he is enrolled plus all other grades received in courses taken in other curricula offered by the University and properly accepted for satisfying the requirements of the curriculum of the school in which the student is enrolled. With the consent of his adviser, a student may repeat a course. In the case of courses which have been repeated or in which conditional grades have been removed by examination or for which a substantially equivalent course has been substituted, the most recent grade received shall be used.

3. For the purpose of averaging, each grade shall be weighted in the following manner:

A	—6 x semester hours = index points
B	—5 x semester hours = index points
C	—4 x semester hours = index points
D	—3 x semester hours = index points
E, F, WF	—2 x semester hours = index points
O, W	not included

GRADUATION INDEX REQUIREMENT

FOR THE ASSOCIATE DEGREE: a minimum graduation index of 3.90 shall be required for graduation.

FOR THE BACHELOR'S DEGREE: a minimum graduation index of 4.00 shall be required for graduation.

SCHOLASTIC PROBATION

A candidate for the bachelor's or associate degree shall be placed on probation if his semester or graduation index at the end of any semester is less than that required for a student with his classification as shown in Table A. A student on probation shall be removed from that status at the end of the first subsequent semester in which he achieves semester and graduation indexes equal to or greater than those required for a student with his classification as shown in Table A. Any grade change due to a reporting error will require reconsideration of probation status.

Temporary students who do not achieve academic standing required of regular students may not be permitted to continue in attendance. Probation is concerned only with the regular semesters and not with the summer sessions and intensive courses.

TABLE A. INDEX LEVELS FOR PROBATION

S = Semester Index; G = Graduation Index

Classification	S	G
1	3.5	3.5
2	3.5	3.5
3	3.6	3.75
4	3.6	3.90
5	3.7	3.95
6	3.7	4.0
7	3.7	4.0
8 and up	3.7	4.0

DROPPING OF STUDENTS FOR SCHOLASTIC DEFICIENCY

A student on scholastic probation shall be dropped from the University if at the close of any semester the semester or graduation index is less than that required of a student with his classification as shown in Table B. This rule shall not apply for the semester in which the student completes all requirements for his degree. A student dropped by this rule and later duly readmitted as a regular student shall be readmitted on probation.

TABLE B. INDEX LEVELS FOR DROPPING

S = Semester Index; G = Graduation Index

Classification	S	G
1*	3.2	3.2
2	3.3	3.3
3	3.4	3.5
4	3.4	3.6
5	3.5	3.7
6	3.5	3.8
7	3.5	3.85
8 and up	3.5	3.9

DISTINGUISHED STUDENTS

Regular undergraduate students, carrying at least 14 semester hours, who successfully complete all their courses with a grade “C” or higher and obtain a semester scholarship index of 5.50 or better will be designated as distinguished for that semester.

DEGREES WITH DISTINCTION

Degrees are awarded at the end of each semester and summer session to candidates who have completed the requirements of their schools. At each of these periods degrees with distinction are awarded to those completing the undergraduate plans of study under the following rules:

1. Distinction at graduation shall be awarded on the basis of all course work taken. Baccalaureates with distinction shall be granted only to those who complete the four (or five) year curricula at Purdue and not to those who complete only the first three years at Purdue.

2. A candidate for the baccalaureate with distinction must have earned at least 70 hours of credit at Purdue. A candidate for an associate degree with distinction must have earned at least 45 hours of credit at Purdue.

For any student to qualify for distinction, his scholarship index for all work completed must be at least 5.00.

3. If the number of graduates in any school who qualify for distinction under rules (1) and (2) exceed one-tenth of the total number of graduates from that school and for that semester or summer session, the number of degrees with distinction shall be limited to one-tenth of the class in that school, and those graduates with highest indexes shall be included. In administering this rule all baccalaureate engineering graduates will be considered as one school and all associate degree graduates will be considered as one school.

4. Of those students who qualify for distinction under these rules, the three-tenths of the baccalaureate graduates having the highest indexes shall be designated as graduating with the highest distinction, irrespective of the schools to which they may belong. The three-tenths of the associate degree graduates having the highest indexes will be designated as graduating with highest distinction.

5. No student with a record of faculty discipline shall be included without special approval by the faculty.

* Affects only students entering on probation.

Plans of Study

ABBREVIATIONS

A&D—Art and Design	EET—Electrical Engineering Technology	MA—Mathematics
AGEC—Agricultural Economics	EG—Engineering Graphics	ME—Mechanical Engineering
AGR—Agriculture	ENGL—English	MSE—Materials Science and Metallurgical Engineering
AGRY—Agronomy	ENGR—Engineering	MET—Mechanical Engineering Technology
ANSC—Animal Sciences	ESC—Engineering Sciences	MTT—Metallurgical Engineering Technology
ART—Architectural Technology	F&N—Foods and Nutrition	NT—Nursing Technology
BCHM—Biochemistry	FOR—Forestry and Conservation	PEMN—Physical Education for Men
BIOL—Biological Sciences	FR—French	PEW—Physical Education for Women
CE—Civil Engineering	GEOS—Geosciences	PHAR—Pharmacy
CET—Civil Engineering Technology	GER—German	PHCH—Pharmaceutical Chemistry
CHE—Chemical Engineering	GNT—General Studies, Technology	PHIL—Philosophy
CHM—Chemistry	GS—General Studies, Humanities	PHYS—Physics
CHT—Chemical Technology	HIST—History	POL—Political Science
CS—Computer Sciences	HORT—Horticulture	PSY—Psychology
C&T—Clothing and Textiles	IED—Industrial Education	RUSS—Russian
COM—Communication	IET—Industrial Engineering Technology	SOC—Sociology
CPT—Computer Technology	INDM—Industrial Management	SPAN—Spanish
ECON—Economics	IS—Industrial Supervision	STAT—Statistics
ED—Education		
EE—Electrical Engineering		

School of Agriculture

TRAINING IN THE PROFESSIONAL PHASES of agriculture provides an opportunity to qualify for challenging and exciting careers. The pressure of population upon world supplies of food and fiber is evident. Modern food production, processing, and marketing are expanding rapidly. The stimulation and control of growth by biological and chemical means present complex problems. The use of natural resources for maximum benefit to society is a compelling necessity.

The opportunities for agricultural graduates trained in professional areas are expanding rapidly. In the decades ahead the demand for men and women with scientific training in agriculture will expand more rapidly than the increase in graduates. Industries related to agriculture need men and women who understand agriculture and are trained in business, communications, production, economics, education, and science.

Training in the School of Agriculture is based upon a solid foundation of mathematics, chemistry, biology, physics, economics, and English. Students are asked to choose an option within agriculture at sophomore level in order to develop a sequence of courses leading to a more clearly defined objective. Each option has substantial opportunities for electives which permit additional specialization in main areas of interest or permit a broad choice in liberal arts or general education.

REQUIRED FRESHMAN YEAR*

First Semester	Second Semester
(0) AGR 101 (Agricultural Lectures)	(4) BIOL 108 (Introduction to Botany)
(4) BIOL 109 (Introduction to Zoology)	(3) CHM 112 (General Chemistry)
(3) CHM 111 (General Chemistry)	(3) MA 153 (Algebra and Trigonometry I)
(3) ENGL 104 (English Composition I)	(3) COM 114 (Fundamentals of Speech Communication)
(2) Military Training or Elective	(2) Military Training or Elective
(6) Electives*	(3) Elective*
<hr/> (18)	<hr/> (18)

FRESHMAN ELECTIVES

Each student will select from the following group three subjects to be taken in his freshman year. His selections will provide the basis for his choice of optional groups in the sophomore, junior, and senior years. He should discuss his electives with the agricultural advisers at registration.

(3) AGRY 105 (Crop Production)	(3) AGECEC 100 (Introductory Agricultural Business and Economics)
(3) ANSC 102 (Introduction to Animal Agriculture)	(3) HORT 102 (Fundamentals of Horticulture)
(3) BCHM 100 (Introduction to Biochemistry)	

AGRICULTURAL ENGINEERING

See Freshman Engineering Programs.

* There are slight variations in academic program for students following programs in agricultural science, biochemistry, food technology, and forestry and conservation.

PREVETERINARY CURRICULUM

An organized four-semester preveterinary curriculum, closely approximating the requirements listed in the catalog of the School of Agriculture, is available at the North Central Campus. This program is designed to qualify the student for admission to the School of Veterinary Science and Medicine. However, if the student is not admitted or does not wish to enter the School of Veterinary Science and Medicine, the curriculum provides a strong program in the biological and physical sciences, which may be used as a basis for continued training in the School of Agriculture should the Bachelor of Science in Agriculture degree be desired.

FRESHMAN YEAR

First Semester	Second Semester
(4) CHM 109* (General Chemistry)	(4) CHM 110* (General Chemistry with Qualitative Analysis)
(3) ENGL 104 (English Composition I)	(4) BIOL 108 (Introduction to Botany)
(3) MA 153 (Algebra and Trigonometry I)	(3) ENGL 105 (English Composition II)
(0) AGR 101 (Agricultural Lectures)	(3) MA 154 (Algebra and Trigonometry II)
(3) AGR Elective	(2) Military Training or Elective
(2) Military Training or Elective	(3) Elective†
(3) Elective†	
<hr/> (18)	<hr/> (19)

SOPHOMORE YEAR

Third Semester	Fourth Semester
(3) ANSC 221 (Introductory Animal Nutrition)	(3) AGRY 430 (Genetics)
(4) BIOL 109 (Introduction to Zoology)	(1) AGRY 430L (Genetics Laboratory)
(4) CHM 255 (Organic Chemistry)	(4) PHYS 221 (General Physics)
(1) CHM 255L (Organic Chemistry Laboratory)	(3) COM 114 (Fundamentals of Speech Communication)
(4) PHYS 220 (General Physics)	(2) Military Training or Elective
(2) Military Training or Elective	(3) Elective
<hr/> (18)	<hr/> (16)

* On the basis of orientation scores, CHM 111-112 (6 cr.) may be taken if at least 7 cr. of chemistry are taken in the sophomore year.

† Elect a minimum of 9 cr. during the preveterinary curriculum from the fields of psychology, sociology, history, political science, agricultural economics, philosophy, foreign languages, religion, and literature.

Schools of Engineering

UNDERGRADUATE INSTRUCTION in engineering, agricultural engineering, chemical engineering, civil engineering, electrical engineering, engineering sciences, industrial engineering, materials science and metallurgical engineering, and mechanical engineering leads to the degree of Bachelor of Science. In order to give the student sufficient time to adjust himself and to choose the branch of engineering for which he is best adapted, the following program of study during the freshman year is common for all engineering curricula. Only those students with adequate background training will be expected to accomplish this in two semesters. Students with inadequate preparation, particularly in mathematics and chemistry, may require an additional semester or summer session to attain sophomore standing.

GENERAL EDUCATION PROGRAM

All engineering students are required to take a minimum of 24 credit hours of general education courses. These hours are distributed as indicated below.

1. Six credit hours in communications are required in the freshman engineering program. These are ENGL 104 or 103 and COM 114.
2. The remaining 18 credit hours must be selected from two groups of course sequences, the first group being in the social sciences and the second group being in fine arts and humanities.
3. Each student must select one 12-hour sequence and one 6-hour sequence. No student may elect a 6-hour sequence from the same group from which he chose a 12-hour sequence.

GROUP I

12-hour sequences

Sociology and/or Psychology
Economics
Foreign Language and Culture
Political Science

6-hour sequences

List same as above.

GROUP II

12 hour sequences

Creative Arts
General Studies
Literature
Communication and/or Theatre
Independent Reading
History
Philosophy

6-hour sequences

Same as above except General Studies

The above sequences are set up to give depth to the various programs in the social sciences, fine arts, and humanities. A pamphlet stating the objectives of the program in general education is available from the academic counselors.

FRESHMAN ENGINEERING

Program A: Students fully qualified upon entrance.

First Semester		Second Semester	
(4)	CHM 115 (General Chemistry)	(4)	CHM 116 (General Chemistry)
(5)	MA 161 (Plane Analytic Geometry and Calculus I)	(5)	MA 162 (Plane Analytic Geometry and Calculus II)
(3)	COM 114 (Fundamentals of Speech Communication) or ENGL 104 (English Composition I)	(3)	ENGL 104 (English Composition I) or COM 114 (Fundamentals of Speech Communication)
(4)	EG 118 (Engineering Graphics)	(4)	PHYS 152 (Mechanics and Sound)
(3)	General Elective	(3)	General Elective
<hr/> (19)		<hr/> (19)	

Program B: Students with below average preparation in mathematics.

First Semester		Second Semester	
(4)	CHM 115 (General Chemistry)	(4)	CHM 116 (General Chemistry)
(5)	MA 151 (Elementary Mathematics for Engineering and the Physical Sciences)	(5)	MA 161 (Mathematics for Engineering and the Physical Sciences I)
(3)	ENGL 104 (English Composition I) or COM 114 (Fundamentals of Speech Communication)	(3)	COM 114 (Fundamentals of Speech Communication) or ENGL 104 (English Composition I)
(4)	EG 118 (Engineering Graphics)	(6)	General Electives
<hr/> (16)		<hr/> (18)	

Program C: Students with below average preparation in chemistry.

First Semester		Second Semester	
(3)	CHM 111 (General Chemistry)	(3)	CHM 112 (General Chemistry)
(5)	MA 161 (Plane Analytic Geometry and Calculus I)	(5)	MA 162 (Plane Analytic Geometry and Calculus II)
(3)	COM 114 (Fundamentals of Speech Communication) or ENGL 104 (English Composition I)	(3)	ENGL 104 (English Composition I) or COM 114 (Fundamentals of Speech Communication)
(4)	EG 118 (Engineering Graphics)	(4)	PHYS 152 (Mechanics and Sound)
		(3)	General Elective
<hr/> (15)		<hr/> (18)	

Program D: Students with below average preparation in chemistry and mathematics.

First Semester	Second Semester
(3) CHM 111 (General Chemistry)	(3) CHM 112 (General Chemistry)
(5) MA 151 (Elementary Mathematics for Engineering and the Physical Sciences)	(5) MA 161 (Plane Analytic Geometry and Calculus I)
(3) ENGL 104 (English Composition I) or COM 114 (Fundamentals of Speech Communication)	(3) ENGL 104 (English Composition I) or COM 114 (Fundamentals of Speech Communication)
(4) EG 118 (Engineering Graphics)	(6) General Electives
<hr/> (15)	<hr/> (17)

School of Home Economics

THE PLAN OF STUDY in home economics is designed to prepare young men and women for professional work in the various areas of the field and at the same time to provide a broad general education which prepares the student to meet the needs for home and community living.

Areas of concentration include clothing and textiles, foods and nutrition, food management, foods in business, food research, home economics extension, housing, and vocational home economics teaching.

Students interested in preparation for work in the fields mentioned above should enroll in the curriculum listed below.

FRESHMAN YEAR

First Semester	Second Semester
(3) ENGL 104 (English Composition I) or ENGL 103 (Composition and Literature)	(3) ENGL 105 (English Composition II)
(3) CHM 111 (General Chemistry)	(3) CHM 112 (General Chemistry)
(3) SOC 100 (Introductory Sociology)	(3) ENGL 240 (English Literature)
(3) COM 114 (Fundamentals of Speech Communication)	(3) PSY 120 (Elementary Psychology)
(3) Mathematics	(3) ECON 210 (Principles of Economics)
<hr/> (15)	<hr/> (15)

School of Humanities, Social Science, and Education

REQUIREMENTS FOR GRADUATION

THE REQUIREMENTS FOR the baccalaureate degree are listed in the *General Information Bulletin* of the University. One of these requirements is the certification by the dean of the appropriate school that the student has completed his plan of study.

Attainment of the objectives of the School of Humanities, Social Science, and Education is sought in two ways. One is through the specialized knowledge a student acquires as he majors or minors in one or more of the subjects offered by the departments in the school. The other is through the opportunity to gain skill and knowledge in other areas of learning through a combination of requirements and free electives.

DEGREES OFFERED

Three bachelor's degrees are offered in the School of Humanities, Social Science, and Education: Bachelor of Arts, Bachelor of Science, and the Bachelor of Physical Education (for men only).

The program leading to the degree of Bachelor of Arts is followed by students majoring in any of the fields of the humanities or the social sciences, in physical education for women, or in high school teaching in any of these fields. The program leading to the degree of Bachelor of Science is followed by students majoring in audiology and speech sciences and those majoring in psychology. The program leading to the degree of Bachelor of Physical Education is followed by men students preparing for coaching and teaching, for admission to a school of physical therapy, or for athletic training.

BACHELOR OF ARTS OR BACHELOR OF SCIENCE

The Plan of Study for the Bachelor of Arts and the Bachelor of Science degrees in the School of Humanities, Social Science, and Education consists of (1) the general education requirements; (2) the requirements for the major (or "area" or "concentration"); and (3)—a sufficient number of elective courses to bring the total credits to 120. All credits must have been earned within the ten years preceding the date of graduation.

GENERAL EDUCATION REQUIREMENTS

New general education requirements become effective for students who enter Purdue University after May 31, 1969. These requirements specify a minimum involvement in several areas. They have been established in order to insure that each student has the opportunity to acquire skill in the oral and written use of his own language, in at least one other modern language, and in mathematics, and that he has had a significant experience in the field of science, in the arts, in the humanities, and in the social sciences.

The General Education requirements for the B.A., and the B.S. degrees:

English Composition	0, 3 or 4 hours
Communication	0 or 3 hours
Foreign Language	0, 3, 6, or 12 hours
Mathematics or Logic	0, 3 or 6 hours
Freshman Issues	3 hours
Humanities (any approved courses in history, literature, aesthetics, and philosophy other than logic, no more than six hours may be selected from any one area)	12 hours
Social Science (any approved courses in economics, politi- cal science, psychology, sociology, anthropology)	6 hours
Natural Science (a six-hour set of courses in biology, chemistry, physics, or geoscience)	6 hours

Maximum hours required for general education .. 52 hours

N.B.—With appropriate evidence of proficiency, a student may be excused from all or a part of the requirements in English composition, communication, foreign language, and mathematics or logic. Thus, if the student shows maximum proficiency in all four fields, it is possible for him to satisfy the requirements with as few as 27 hours (the last four items of the list above). The remaining hours are then available to him as electives.

CONCENTRATION REQUIREMENTS

There are three patterns of concentration: (1) the *area* (maximum of 45 hours, of which at least 12 are in courses outside the major department); (2) the *concentration* (36 to 45 hours); and (3) the *major* (24 to 35 hours). Each department specifies whether its major must be accompanied by a minor. This major, concentration, or area provides the depth necessary for admission to a graduate school, to meet teacher certification requirements, or for a well-rounded liberal education.

Each student must file his choice of major, area, or concentration at the office of the dean, not later than the end of the third semester. He may subsequently change his major, with permission of the dean.

B. A. and B.S. Degrees

AREAS, CONCENTRATIONS, AND MAJORS

AUDIOLOGY AND SPEECH SCIENCES

Audiology and Speech Sciences
Speech and Hearing Therapy

CHILD DEVELOPMENT AND FAMILY LIFE

Human Development

COMMUNICATION

General Speech
General Interpersonal Communication
Mass Communication
(Radio, Television, Film, Journalism)

CREATIVE ARTS

Advertising Design
Art History
Fine Arts
Interior Design
Music History
Theater

ENGLISH

American Literature
Creative Writing
English Honors
English Literature

FOREIGN LANGUAGE

French
German
Russian
Spanish

HISTORY

American Civilization
American History
European History

LIBRARY SCIENCE

PHILOSOPHY

PHYSICAL EDUCATION, HEALTH, AND RECREATION

Health and Safety
Physical Education (Women)
Research
Recreation

POLITICAL SCIENCE

Comparative Government
International Relations
Political Science
Political Theory

PRE-LAW

PSYCHOLOGY

SOCIOLOGY

Anthropology
Sociology

MINORS

Anthropology
Audiology and Speech Sciences
Economics
French
German
Health and Safety
History
Journalism
Library Science
Literature
Mathematics
Music History and Theory

Philosophy
Political Science
Psychology
Radio and Television
Recreation
Russian
Sociology
Spanish
Speech Communication
Speech Communication, History of
Speech, General
Theatre

PROGRAMS FOR TEACHER CERTIFICATION

Teaching Area Majors

Arts and Crafts	Physical Education and Health (Women)
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Teaching Majors

Arts and Crafts	Spanish
Communication	Health and Safety
Elementary Education	Physical Education and Health (Women)
Foreign Language	Recreation
Library	School Library and Audiovisual Services
Nursery-Kindergarten	Social Studies—two of:
Physical Education (Men)	Economics
Special Education (Teaching the Mentally Retarded)	Government
English Honors	Sociology
English	U. S. History
Foreign Language	World History
French	Speech and Hearing Therapy
German	
Russian	

Teaching Minors

Arts and Crafts	Physical Education (Men)
Biology	Physical Education (Women)
Chemistry	Physics
Communication	Psychology
English	Recreation
Foreign Language	School Library and Audiovisual Services
French	Social Studies—one of:
German	Economics
Russian	Government
Spanish	Sociology
General Science	U. S. History
Health and Safety	World History
Mathematics	

In teacher preparation, Purdue University has been accredited by the National Commission on Accreditation of Teacher Education by the North Central Association of Secondary Schools and Colleges, and by the Indiana State Department of Public Instruction. Detailed requirements for any of the areas, majors, or minors may be obtained from the student counseling office of the school. A student who has an educational objective not covered in the list of areas, majors, or minors should consult the director of counseling.

Each student's program for the four years will be based on one of several plans of study, appropriately modified to fit his concentration requirements and his exemptions, i.e., proficiency in modern language, ENGL 103, etc.

Students who plan to teach in high school will use the plan of study for the major subject-matter field of the teaching certificate for which they expect to qualify.

ELEMENTARY EDUCATION

Preparation in elementary education is offered to a limited number of students chosen on the basis of above-average scholarship, leadership qualities, good mental and physical health, and positive attitude toward children and teaching as a profession. In addition to the core program of all students and the professional program in elementary education, the student will have 24 semester hours for a major in the field of his choice.

BACHELOR OF PHYSICAL EDUCATION

The plan of study for the degree of Bachelor of Physical Education, for men only, consists of:

1. Completion of the curriculum requirements for one of the four options in physical education, and
2. The completion of at least 138 hours of credit within the ten years preceding the date of graduation.

At the end of the common freshman year, the student chooses one of the following four options:

Option A: Coaching and Teaching. Designed for those who wish to become athletic coaches and teachers of health and physical education. In addition to certification in health and physical education, it is highly desirable to qualify for at least one other teaching subject. This second subject may be chosen from biology, chemistry, communication, English, history, a modern language, mathematics, physics, and shop.

Option B: Nonteaching Major. A special non-teacher-preparation program to be arranged with an adviser. It has the same over-all requirements as Option A.

Option C: Pre-Physical Therapy. The techniques of remedial or therapeutic practices in physical education. It is intended to prepare the student for admission to a school of physical therapy.

Option D: Athletic Training. For those who wish to become athletic trainers. Requires special counseling.

School of Industrial Management

INDUSTRIAL MANAGEMENT

AS MODERN SOCIETY makes increasing use of technology, managers must keep informed to handle their own jobs effectively and to be able to understand and cooperate with the technical specialist. The industrial management curriculum, by including a required technical sequence, enables the student to take advantage of Purdue's excellent resources in science and technology. Through the technical option, students are provided an opportunity to acquire a basic understanding of a specific area in the field of science and technology.

Such an objective is essential if the individual is to be capable of working effectively with engineers and scientists in a technically-based industry.

Included in the curriculum is a concentration of mathematics and quantitative methods courses designed to provide the necessary training and background in the use of rigorous analytic techniques applicable to management decisions. This program is designed to help the student develop this kind of broad understanding of the management process.

An administrator cannot be made in the short span of a few months or a year. Indeed, most individuals require years of experience to develop the skills, insights, and maturity of judgment which distinguish an effective manager. However, a professional management curriculum can give the student an effective start in his development as a manager. In brief, it can help him become a more useful member of his organization early in his career, and it can aid him in learning and growing more rapidly in positions of increasing responsibility.

ECONOMICS

In contrast to the technically-based internal approach utilized in the management program, the economics curriculum provides a coordinated series of courses in the field of economics and business as a means of developing a broad fundamental background in business organizations and the economic environment in which a business operates. The program includes four two-semester sequences covering economic principles, aggregate economics, statistics, and accounting, plus courses in business law and managerial economics. In addition, three related courses in economics and business of special interest to the student make possible a degree of specialization. Elective hours permit either further concentration in economics or enrichment in the general education area.

Business leaders, employment officials, and schools for advanced study, such as law schools, have endorsed this type of economics and business education with liberal arts background. The program satisfies the need of future junior business executives for a broad, liberal-arts-oriented base on which to build specific training and experience received on the job.

INDUSTRIAL MANAGEMENT

FRESHMAN YEAR

First Semester		Second Semester	
(4)	CHM 115 (General Chemistry)	(4)	CHM 116 (General Chemistry)
(5)	MA 161 (Plane Analytic Geometry and Calculus I)	(5)	MA 162 (Plane Analytic Geometry and Calculus II)
(3)	ENGL 104 (English Composition)	(3)	COM 114 (Fundamentals of Speech Communication)
(3)	POL 101 (Introduction to Government)	(3)	ENGL 105 (English Composition II)
(1)	INDM 100 (Management Lectures)	(1)	ENGL 185 (Developmental Reading)
(3)	Electives		
<hr/> (19)		<hr/> (16)	

ECONOMICS (OPTION)**FRESHMAN YEAR**

First Semester	Second Semester
(3) ENGL 104 (English Composition I)	(3) ENGL 105 (English Composition II)
(3) MA 153 (Algebra and Trigonometry I)*	(3) MA 154 (Algebra and Trigonometry II)*
(3) HIST 251 (American History to 1865) or HIST 200 (Early Civilization) or HIST 252 (The United States and Its Place in World Affairs)	(3) Lab Science Elective†
(3) Lab Science Elective†	(3) Cultural Sequence II‡
(3) Cultural Sequence‡	(3) Social Science Elective
(3) Elective	(3) Elective
<hr/> (18)	<hr/> (18)

SOPHOMORE YEAR

Third Semester	Fourth Semester
(3) INDM 200 (Basic Accounting)	(3) INDM 202 (Financial Accounting)
(3) ECON 210 (Principles of Economics I)	(3) ECON 212 (Principles of Economics II)
(3) COM 114 (Fundamentals of Speech Communication)	(3) SOC 100 (Introductory Sociology) or PSY 120 (Elementary Psychology)
(3) MA 213 (Finite Mathematics I)	(3) MA 214 (Finite Mathematics II)
(3) Cultural Sequence III	(3) Cultural Sequence IV
(3) Elective	(3) Elective
<hr/> (18)	<hr/> (18)

School of Science

THE SCHOOL OF SCIENCE consists of the departments of Biological Sciences, Chemistry, Physics, Computer Sciences, Statistics, Geosciences, and the Division of Mathematical Sciences.

The School of Science offers a broad training which prepares students for a variety of careers.

Curricula leading to two degrees, Bachelor of Science and Bachelor of Science in Chemistry, are offered by the School of Science.

Specific details of these curricula and the requirements for the degrees are listed in the School of Science catalog.

* A higher level course may be taken, depending on student's mathematics background.

† Completion of two semester sequence (six hours minimum) in one of the following: biology, chemistry, geoscience, or physics.

‡ Completion of an approved four-course sequence in one of the following areas: modern language, philosophy, political science, world history, or world literature.

BACHELOR OF SCIENCE DEGREE

General Education Requirements

The following general requirements for the B.S. degree in the School of Science are supplemented by requirements of the department of the student's major. Particular attention is drawn to modifications allowed in the curricula for prospective high school teachers (as indicated below).

1. A total of 124 semester hours. An average of 15½ hours per semester is sufficient to accumulate 124 hours in eight semesters. Students with a graduation index less than 5.0 are advised not to take more than 17 hours in any one semester.

2. English composition: One year of English composition, or ENGL 103 entered by achievement examination and completed with a grade of "C" or better.

3. Modern foreign language: Pass a fourth-semester college-level course in a modern foreign language, or pass an equivalent proficiency examination. In high school teaching curricula, the student must pass a second-semester college-level course in a modern foreign language or pass a proficiency examination.

4. Humanities, social science, and behavioral sciences: The minimum requirement is 18 hours, but it is strongly recommended that the student take more than a minimal program. Six hours must be chosen from each of two of the following areas: (a) literature, philosophy; (b) history, political science; and (c) economics, sociology, psychology. In addition, a satisfactory two-course sequence must be chosen from one of the above areas.

5. Mathematics: At least 11 hours.

6. Science: Each student must take at least four courses in laboratory science (biology, chemistry, geology, physics) *outside his major area*. It is preferable that he take two-course sequences in each of two sciences; in no case shall he satisfy this requirement by courses drawn from more than two sciences.

BIOLOGICAL SCIENCES

The Department of Biological Sciences offers four programs leading to the Bachelor of Science degree. These are:

1. *The Biological Science Program*. This program is designed for students interested in any of the areas of basic biology. By choosing an appropriate plan of study within this program a student can specialize in botany, microbiology, zoology, or general biology (including biophysics), either with the B.S. as a terminal degree or in preparation for graduate work.
2. *The Premedical and Predental Program*. The plans of study in this program differ from those in the preceding program only in requiring fewer credits in biology and in providing an opportunity for some students to fulfill their requirements for the B.S. by taking all required courses (99 to 103 credits, depending on chemistry and mathematics sequences selected) in six semesters and then completing the first year at an accredited medical or dental school.

3. *The Medical Technology Program.* The plans of study in this program include six semesters of work (96 credit hours) at Purdue University followed by a full year of work at an approved school of medical technology and a successful Board of Registry examination.
4. *The Biology Teaching Program.* The plans of study in this program are designed for prospective high school teachers in biology. Such students should note that, in addition to meeting the requirements for the degree, it is essential for them to complete the requirements for certification imposed by the state in which they expect to teach.

Each program consists of (1) the core courses in biology; (2) certain specified courses in chemistry, physics, and mathematics; (3) in some cases, additional elective courses in biology; (4) the School of Science course requirements; and (5) for prospective teachers, certain education courses. In the medical technology program, three of the core biology courses are replaced by other courses in biology, one of which must be animal physiology.

Biological Sciences, Premedicine, Predentistry, Medical Technology, and Biology Teaching

FRESHMAN YEAR

First Semester	Second Semester
(3) BIOL 103 (Principles of Biology)	(3) BIOL 104 (Principles of Biology)
(4) CHM 115 (General Chemistry)	(4) CHM 116 (General Chemistry)
(3) ENGL 104 (English Composition I)	(3) ENGL 105 (English Composition II)
(3) MA 213 (Finite Mathematics I)	(3) MA 214 (Finite Mathematics II)
or	or
(5) MA 161 (Plane Analytic Geometry and Calculus I)	(5) MA 162 (Plane Analytic Geometry and Calculus II)
(3) Modern Language	(3) Modern Language
<hr/>	<hr/>
(16-18)	(16-18)

CHEMISTRY

FRESHMAN YEAR

First Semester	Second Semester
(5) CHM 117 (Advanced General Chemistry)	(5) CHM 126 (Advanced General Chemistry with Qualitative Analysis)
(5) MA 161 (Plane Analytic Geometry and Calculus I)	(5) MA 162 (Plane Analytic Geometry and Calculus II)
(3) ENGL 104 (English Composition I)	(3) ENGL 105 (English Composition II)
(3) GER 101 (First Course in German)	(3) GER 102 (Second Course in German)
<hr/>	<hr/>
(16)	(16)

SOPHOMORE YEAR

Third Semester

- (3) CHM 261 (Organic Chemistry)
- (2) CHM 265L (Organic Chemistry Laboratory)
- (4) MA 261 (Multivariate Calculus)
- (4) PHYS 152 (Mechanics and Sound)
- (3) GER 203 (Third Course in German)

 (16)

Fourth Semester

- (3) CHM 262 (Organic Chemistry)
- (2) CHM 266L (Organic Chemistry Laboratory)
- (4) MA 262 (Linear Algebra and Differential Equations)
- (5) PHYS 251 (Heat, Electricity, and Optics)
- (3) GER 244 (Fourth Course in Scientific German)

 (17)

MATHEMATICS

FRESHMAN YEAR

First Semester

- (5) MA 161 (Plane Analytic Geometry and Calculus I)
- (3) ENGL 104 (English Composition I)
- (3) Modern Language (German preferred)
- (4) Science Elective
- (3) Elective

 (18)

Second Semester

- (5) MA 162 (Plane Analytic Geometry and Calculus II)
- (3) ENGL 105 (English Composition II)
- (3) Modern Language
- (4) Science Elective
- (3) Elective

 (18)

SOPHOMORE YEAR

Third Semester

- (4) MA 261 (Multivariate Calculus)
- (3) Modern Language
- (4) Science Elective
- (6) Humanities Electives

 (17)

Fourth Semester

- (3) MA 351 (Elementary Linear Algebra)
- (3) Modern Language
- (4) Science Elective
- (3) MA 361 (Advanced Calculus and Differential Equations)
- (3) Elective

 (16)

PHYSICS**FRESHMAN YEAR**

First Semester		Second Semester	
(3)	ENGL 104 (English Composition I)	(4)	CHM 116 (General Chemistry)
(4)	CHM 115 (General Chemistry)	(5)	MA 162 (Plane Analytic Geometry and Calculus II)
(5)	MA 161 (Plane Analytic Geometry and Calculus I)	(3)	PHYS 152 (Mechanics and Sound)
(1)	ENGL 185 (Developmental Reading)	(1)	PHYS 152L (Mechanics and Sound Laboratory)
(3)	Modern Language	(3)	Modern Language
<hr/>		<hr/>	
(16)		(16)	

SOPHOMORE YEAR

Third Semester		Fourth Semester	
(4)	MA 261 (Multivariate Calculus)	(4)	MA 262 (Linear Algebra and Differential Equations)
(5)	PHYS 251 (Heat, Electricity, and Optics)	(3)	PHYS 342 (Modern Physics)
(3)	ENGL 105 (English Composition II)	(1)	PHYS 342L (Modern Physics Laboratory)
(3)	Modern Language	(3)	Modern Language
		(6)	Electives
<hr/>		<hr/>	
(15)		(17)	

PREPHARMACY

The Purdue School of Pharmacy and Pharmacal Sciences does not admit students directly from high school. Students wishing to prepare for the profession of pharmacy register in the School of Science for the prepharmacy program and apply for transfer to the School of Pharmacy and Pharmacal Sciences at the end of the freshman year. Application for the transfer should be filed with the dean of the Pharmacy School or with the pharmacy adviser before April 1. Students who, for any reason, do not transfer to the School of Pharmacy and Pharmacal Sciences may apply for transfer to any other school of the University or may remain in the School of Science with a change of educational objective.

PRE-PHARMACY YEAR

First Semester		Second Semester	
(3)	MA 153 (Algebra and Trigonometry I)	(3)	MA 154 (Algebra and Trigonometry II)
(4)	CHM 115 (General Chemistry)	(4)	CHM 116 (Qualitative Analysis)
(3)	ENGL 104 (English Composition I)	(3)	ENGL 105 (English Composition II)
(3)	COM 114 (Fundamentals of Speech Communication)	(1)	PHAR 101 (Orientation)
(1)	PHAR 100 (Orientation)	(3)	Elective
(2-3)	Elective, Physical Education or Military Training	(2-3)	Elective, Physical Education or Military Training
<hr/> (16-17)		<hr/> (16-17)	

SECOND YEAR

Third Semester		Fourth Semester	
(3)	BIOL 103 (Principles of Biology)	(3)	BIOL 104 (Principles of Biology)
(3)	CHM 255 (Organic Chemistry)	(3)	CHM 256 (Organic Chemistry)
(1)	CHM 255L (Organic Chemistry Laboratory)	(1)	CHM 256L (Organic Chemistry Laboratory)
(4)	PHYS 220 (General Physics)	(4)	PHYS 221 (General Physics)
(1)	PHAR 260 (Calculations)	(5-6)	Electives
(3-4)	Electives		
<hr/> (15-16)		<hr/> (16-17)	

ELECTIVES: Fifteen credit hours must be selected from two general areas of study: (1) humanities and (2) social studies and behavioral sciences. A minimum of six credit hours must be taken in each area. The 15 elective credit hours must be completed during the first six semesters. ECON 210 shall be counted toward the satisfaction of this requirement. Departments and courses which will meet the requirement for these restricted elective are the following:

Humanities	Social Studies and Behavioral Sciences
Communication (all courses numbered 160 and above)	Economics (all courses)
English (all courses numbered 200 and above)	History (all courses)
Modern Languages (all courses)	Political Science (all courses)
Philosophy (all courses)	Sociology (all courses)

PHAR 100, 101 and 260 may be postponed until the student transfers to the West Lafayette Campus.

School of Technology

THE APPLIED SCIENCES

THE UNIVERSITY has a number of two-year undergraduate programs leading to the degree of Associate in Applied Science.

The associate degree is awarded to each student who satisfactorily completes the program of study in one of the curricula. Graduates can expect to be immediately employable in industry. Those who have received the associate degree may be admitted to the two-year curricula designed to lead to a Bachelor of Science degree in technology, industrial education, or industrial supervision.

The Nature of Applied Science

Scientific and technological complexity ranges over a very broad spectrum, extending all the way from extremely simple activity to highly complex and abstract activity. At one extreme are the pure scientist and the engineering scientist; at the other, the mechanic, the craftsman, and the service personnel.

The Engineer. The 33rd Annual Report of the Engineering Council for Professional Development, Sept. 30, 1965, defines engineering as "the profession in which a knowledge of the mathematical and natural sciences gained by study, experience, and practice is applied with judgment to develop ways to utilize, economically, the materials and forces of nature for the benefit of mankind."

The Engineering Technician. The National Society for Professional Engineers has approved this definition of the engineering technician provided by the Board of the Institute for the Certification of Engineering Technicians:

"An engineering technician is one who, in support of and under the direction of professional engineers or scientists, can carry out in a responsible manner either proven techniques which are common knowledge among those who are technically expert in a particular technology, or those techniques especially prescribed by professional engineers.

"Performance as an engineering technician requires the application of principles, methods, and techniques appropriate to a field of technology, combined with practical knowledge of the construction, application, properties, operation, and limitations of engineering systems, processes, structures, machinery, devices, or materials, and, as required, related manual crafts, instrumental, mathematical, or graphic skills.

"Under professional direction an engineering technician analyzes and solves technological problems, prepares formal reports on experiments, tests, and other similar projects or carries out functions such as drafting, surveying, technical sales, advising consumers, technical writing, teaching or training. An engineering technician need not have an education equivalent in type, scope, and rigor to that required of an engineer; however, he must have a more theoretical education with greater mathematical depth, and experience over a broader field than is required of skilled craftsmen who often work under supervision."

The Skilled Craftsman. The work of the engineer and the technician would be meaningless without the contribution of the skilled craftsman who carries out engineering ideas. A toolmaker, for example, fabricates a jig or die from a design conceived by the engineer and detailed by the technician. The electrician, pipefitter, welder, machinist, chemical operator, and surveyor's rodman likewise use their skills to carry out the work of the engineering team.

Need. Our present space age, with its exploding accumulation of new information and scientific discovery, has increased the need for people with specialized training in science and technology. Experts have recently estimated that our nation's engineering schools must graduate twice the present 35,000 engineers per year if we are to meet the expanding needs.

Since it now appears improbable that our nation will be able to attain the goal of 70,000 to 80,000 engineers per year another approach to the problem is necessary. The most reasonable solution appears to be one of making the present professional engineer more efficient by providing him with assistance in the form of an engineering technician. Many experts believe there should be a ratio of from three to five engineering technicians for each engineer. This would indicate that 100,000 to 150,000 engineering technicians should be trained per year.

Currently the United States has only about 16,000 graduates of engineering technology programs coming on the job market each year. This simply means there is a large, unsatisfied demand for engineering technicians. The opportunities in this field are virtually unlimited.

Developed With Industrial Cooperation

Various courses are offered to cover the basic knowledge and practices of present-day industry. Industrial leaders have been consulted to learn the kind of specific technical information required by persons who take jobs in industry. Many members of the instructional staff are drawn from local industries, but course administration, teaching material, and standards of instruction are under the direction of the departments involved.

ARCHITECTURAL TECHNOLOGY

This curriculum is designed to prepare students for technological employment with contractors, building materials suppliers, architects, civil engineers, and related governmental agencies.

Emphasis is placed on construction materials and processes, specifications, regulations, estimating, surveying, frame and masonry construction, and architectural and structural drafting, as well as on related courses in mathematics and physical science.

Also included are courses dealing with some of the historical, economic, and human relations aspects related to the individual in our American industrial life.

Graduates are prepared to accept positions as estimators, expeditors, planning technicians, field inspectors, architectural detailers, architectural draftsmen, and sales representatives. With experience, after completing this program of study, graduates are now holding positions as field engineers, technical engineers, junior structural engineers, engineering assistants, shop superintendents, and real estate brokers.

Graduates may also continue their education by pursuing a Bachelor of Science degree with a major in construction technology.

FRESHMAN YEAR

First Semester	Second Semester
(2) ART 118 (Architectural Projections)	(2) ART 121 (Freehand Drawing II)
(2) ART 120 (Freehand Drawing I)	(3) ART 150 (Architectural Construction I)
(2) ART 172 (Systems of Construction)	(2) ART 164 (Building Materials)
(3) CET 104 (Elementary Surveying)	(2) MET 210 (Applied Statics)
(5) MA 151A (Elementary Mathematics for Engineering and the Physical Sciences)	(4) PHYS 220 (General Physics)
(3) SOC 100 (Introductory Sociology)	(3) ENGL 104 (English Composition I)
<hr/> (17)	<hr/> (16)

SOPHOMORE YEAR

Third Semester	Fourth Semester
(3) ART 222 (Architectural Construction II)	(3) ART 210 (History of Architecture)
(2) ART 276 (Specifications and Contract Documents)	(3) ART 224 (Architectural Construction III)
(3) ART 284 (Mechanical Equipment for Buildings)	(3) ART 280 (Quantity Survey)
(4) MET 211 (Applied Strength of Materials)	(3) CET 266 (Materials Testing)
(4) PHYS 221 (General Physics)	(3) IS 268 (Elements of Law)
(3) COM 114 (Fundamentals of Speech Communication)	(3) GNT 220 (Technical Report Writing)
<hr/> (19)	<hr/> (18)

COMPUTER TECHNOLOGY

This two-year associate degree program is designed to produce a graduate in the occupational range between a computer programmer and a systems analyst, but closer to the former, either in commercial areas or in scientific areas depending upon which of the two options is selected. This curriculum is designed to prepare a person to perform the following functions: analyze problems, design flowcharts and computer programs, verify programs, evaluate and modify existing programs, and be familiar with common commercial and business procedures or with common scientific and engineering procedures.

Commercial Option

FRESHMAN YEAR

First Semester	Second Semester
(3) CPT 101 (Introduction to Computers)	(3) CPT 122 (Computer Math)
(3) CPT 111 (Unit Record Data Processing)	(3) CPT 131 (Assembly Language Programming I)
(1) ENGL 185 (Developmental Reading)	(3) ENGL 104 (English Composition I)
(5) MA 151A (Elementary Mathematics for Engineering and the Physical Sciences)	(3) IET 104 (Industrial Organization)
(3) COM 114 (Fundamentals of Speech Communication)	(3) INDM 200 (Introductory Accounting)
<hr/>	<hr/>
(15)	(15)

SOPHOMORE YEAR

Third Semester	Fourth Semester
(3) CPT 132 (Assembly Language Programming II)	(3) CPT 265 (COBOL Programming)
(3) CPT 225 (Statistical Methods)	(3) CPT 284 (Utility Programs)
(3) CPT 254 (Commercial Systems Applications)	or
(3) CPT 264 (Fortran Programming)	CPT 286 (Computer Operating Systems I)
(3) INDM 201 (Cost Accounting)	(1) CPT 294 (Computer Seminar and Field Trips)
(3) Elective	(3) ECON 210 (Principles of Economics)
	(3) GNT 220 (Technical Report Writing)
	(3) Elective
<hr/>	<hr/>
(18)	(16)

Technical Option

FRESHMAN YEAR

First Semester	Second Semester
(3) CPT 101 (Introduction to Computers)	(3) CPT 122 (Computer Math)
(3) CPT 111 (Unit Record Data Processing)	(3) CPT 131 (Assembly Language Programming I)
(1) ENGL 185 (Developmental Reading)	(3) ENGL 104 (English Composition I)
(5) MA 151A (Elementary Mathematics for Engineering and Physical Sciences)	(3) IET 104 (Industrial Organization)
(3) COM 114 (Fundamentals of Speech Communication)	(4) PHYS 220 (General Physics)
<hr/>	<hr/>
(15)	(16)

SOPHOMORE YEAR

Third Semester	Fourth Semester
(3) CPT 132 (Assembly Language Programming II)	(3) CPT 220 (Numerical Methods I)
(3) CPT 225 (Statistical Methods)	(1) CPT 294 (Computer Seminar and Field Trips)
(3) CPT 264 (Fortran Programming)	(3) ECON 210 (Principles of Economics)
(3) MA 223A (Introductory Analysis I)	(3) GNT 220 (Technical Report Writing)
(4) PHYS 221 (General Physics)	(3) MA 224A (Introductory Analysis II)
(3) Electives	(3) Elective
<hr/> (19)	<hr/> (16)

ELECTRICAL ENGINEERING TECHNOLOGY

The electrical engineering technology program is a combination of courses in electrical engineering technology, mathematics, science, and general academic subjects that lead to the degree of Associate in Applied Science. The program is designed to prepare students for employment as electronic technicians in research laboratories, electronic industries, and in any industry that uses electrical power or electronic controls.

The basic curriculum will provide the student with sufficient education to find employment in the fields of communications electronics, industrial electronics, microwaves, military electronics, computer electronics, automation, electronic servicing, television, electrical power, aviation electronics, and others. Specialization in these areas is provided by technical elective courses in the second year of the program.

The duties of the electronic technician could be: construction, testing, and troubleshooting of experimental circuits in research laboratories; installation, maintenance, troubleshooting, operation, and testing of electrical and electronic equipment in industries; sales and service of electronic equipment, etc.

Electronic technicians have the following job classifications: research or laboratory technician, electronics engineering technician, engineering development technician, product design technician, systems test technician, field service technician, production technician, maintenance technician, instrument technician, inspectors, electronic specialist, radio operator, and many others.

After experience and continued technical growth, graduates hold such positions as junior engineer, sales engineer, field engineer, customer service engineer, applications engineer, supervisor, manager, foreman, contractor, electrical estimator, broadcast engineer, etc.

Students who obtain the degree of Associate in Applied Science are eligible for consideration for admission to curricula leading to the degree of Bachelor of Science. Approximately two additional years of study are necessary to complete the requirements for this degree.

FRESHMAN YEAR**First Semester**

- (2) EET 103 (Electronics I: Vacuum Tubes and Transistors)
- (3) EET 101 (Electrical Circuits I)
- (2) EET 113 (Electrical Engineering Technology Laboratory I)
- (5) MA 151A (Elementary Mathematics for Engineering and the Physical Sciences)
- (3) ENGL 104 (English Composition I)
- (3) Nontechnical Elective

(18)**Second Semester**

- (3) EET 153 (Electronics II)
- (3) EET 151 (Electrical Circuits II)
- (2) EET 163 (Electrical Engineering Technology Laboratory II)
- (4) GNT 136 (Physics: Mechanics and Heat)
- (3) MA 223A (Introductory Analysis I)
- (3) COM 114 (Fundamentals of Speech Communication)

(18)**SOPHOMORE YEAR****Third Semester**

- (3) EET 203 (Electronics III)
- (3) EET 211 (Electric Machinery)
- (2) EET 213 (Electrical Engineering Technology Laboratory III).
- (3) MA 224A (Introductory Analysis II)
or
Nontechnical Elective
- (4) GNT 176 (Physics: Electricity, Sound, and Light)
- (3) Technical Elective

(18)**Fourth Semester**

- (3) EET 253 (Electronics IV)
- (1) EET 263 (Electrical Engineering Technology Laboratory IV)
- (2) EET 376 (Specialty Laboratory)
- (3) EG 110 (Drafting Fundamentals)
- (3) Technical Elective
- (6) Nontechnical Electives

(18)**INDUSTRIAL ENGINEERING TECHNOLOGY**

This major field of specialization is designed to develop technicians to support the problem-solving and decision-making functions in management and to prepare for planning and control, work method analysis, work measurements, quality assurance and controls, and systems and procedures analysis. Practical applications of production-oriented operations research techniques, data processing, and computer programming fundamentals are stressed.

The industrial engineering technician is often initially employed in the time study, quality control, production control, or plant layout department. As he gains experience, he may advance within the department, directly assisting a professional industrial engineer, or he may become a production supervisor. This broad technical background, together with the human relations background and a proficiency in engineering methods and mathematics, enable the industrial engineering technician to take advantage of opportunities for advancement in many directions.

FRESHMAN YEAR

First Semester	Second Semester
(3) EG 110 (Drafting Fundamentals)	(3) ENGL 104 (English Composition I)
(3) IET 104 (Industrial Organization)	(3) IET 204 (Techniques of Maintaining Quality)
(5) MA 151A (Elementary Mathematics for Engineering and the Physical Sciences)	(3) CPT 100 (Computer Utilization)
(1) MET 100 (Applied Engineering Computations)	(3) STAT 401 (Elementary Statistical Methods)
(4) GNT 136 (Physics: Mechanics and Heat)	(2) MET 335 (Basic Machining)
	(4) GNT 176 (Physics: Electricity, Sound, and Light)
<hr/> (16)	<hr/> (18)

SOPHOMORE YEAR

Third Semester	Fourth Semester
(3) ECON 210 (Principles of Economics)	(3) GNT 220 (Technical Report Writing)
(3) IET 224 (Production Planning and Control)	(3) IET 250 (Fundamentals of Production Cost Analysis)
(3) IET 262 (Motion Study and Work Methods)	(3) IET 266 (Work Measurement and Incentives)
(3) IS 152 (Human Relations in Industry)	(3) COM 114 (Fundamentals of Speech Communication)
or	(4-6) Technical Electives
PSY 370 (Psychology in Business and Industry)	
(2) IET 220 (Critical Path Analysis)	
(3) Technical Elective	
<hr/> (17)	<hr/> (16-18)

MECHANICAL ENGINEERING TECHNOLOGY

This program of study is designed to prepare students to take employment in industries requiring services of drafting and design of a mechanical nature.

Emphasis is placed on product and tool design, mechanical maintenance, testing, inspection, and the selection of methods for efficient and economical production.

Also included are courses dealing with fundamentals of industrial management and with some of the historical, economic, and human relations aspects of our American industrial life, all related to the individual.

Graduates of this program accept jobs as laboratory technicians, engineering assistants, detailers, draftsmen, tool maintenance men, layout men, inspectors, and machine and tool salesmen. With additional experience students may aspire to positions as industrial supervisors, machine and tool designers, tool buyers, production expeditors, and cost estimator.

A cooperative work program with industry may be made available to the student, to be worked out on an individual student basis.

FRESHMAN YEAR

First Semester

- (1) MET 100 (Applied Engineering Computations)
- (2) MET 180 (Materials and Processes)
- (2) MET 210 (Applied Statics)
- (3) EG 110 (Drafting Fundamentals)
- (3) ENGL 104 (English Composition I)
- (5) MA 151A (Elementary Mathematics for Engineering and the Physical Sciences)*

(16)

Second Semester

- (2) MET 204 (Production Drawing)
- (4) MET 211 (Applied Strength of Materials)
- (2) MET 335 (Basic Machining)
- (3) GNT 220 (Technical Report Writing)
- (3) MA 223A (Introductory Analysis I)
- (3) COM 114 (Fundamentals of Speech Communication)

(17)

SOPHOMORE YEAR

Third Semester

- (3) MET 200 (Power Systems)
- (4) MET 216 (Machine Elements)
- (3) MA 224A (Analysis II)
- (4) PHYS 220 (General Physics)
- (3) Technical Elective

(17)

Fourth Semester

- (3) MET 330 (Fluid Power)
- (3) MST 384 (Instrumentation)
- (3) IS 152 (Human Relations in Industry)
- (4) PHYS 221 (General Physics)
- (3) Technical Elective
- (3) Nontechnical Elective

(19)

NURSING

This program of nursing education provides a means of correlating the philosophy and standards of nursing education with those of general education. The over-all standards and policies of the University apply to the program in nursing as they do to the other educational programs within the University. The associate degree program is designed to fulfill the educational needs of qualified high school graduates who want to (1) prepare for nursing in a relatively short time and (2) study in a multi-purpose collegiate institution where they share the responsibilities, privileges, intellectual, and social experiences with all other students. Clinical practice experiences are obtained in nearby cooperating hospitals. The University nursing faculty selects, supervises, and evaluates all learning experiences.

Graduates are prepared to give care to patients as beginning general duty nurses, drawing upon their scientific knowledge and understanding of human behavior and needs. They are prepared to develop satisfactory relationships with people, to cooperate and share responsibility for their patients' welfare with other members of the nursing and health staff, and to be self-directive in learning from experience as practicing nurses.

* MATHEMATICS—A student whose program requires MA 151A and who does not qualify for MA 151A, as indicated by the placement tests in algebra and trigonometry and high school grades, will be assigned to a four-semester sequence: MA 111, MA 151A, MA 223A, and MA 224A. Thus it is strongly urged that he complete MA 111 or equivalent in the summer session preceding entrance into full-time study. Otherwise, the student may require five semesters to complete his program.

Graduates of the associate degree program in nursing are eligible for state examinations for licensure as registered nurses.

All nursing courses must be taken in sequence.

FRESHMAN YEAR

First Semester		Second Semester	
(2)	BIOL 201 (Biology of Man)	(2)	BIOL 203 (Biology of Man)
(1)	BIOL 202 (Laboratory in Human Biology)	(1)	BIOL 204 (Laboratory in Human Biology)
(3)	CHM 119 (General Chemistry)	(3)	BIOL 220 (Introduction to Microbiology)
(3)	PSY 120 (Elementary Psychology)	(3)	PSY 235 (Child Psychology)
(3)	F&N 303 (Essentials of Nutrition)	(3)	PCOL 201 (Pharmacology)
(5)	NT 110 (Introduction to Nursing)	(5)	NT 120 (Maternal and Child Nursing)
<hr/> (17)		<hr/> (17)	

SOPHOMORE YEAR

Third Semester		Fourth Semester	
(3)	SOC 100 (Introduction to Sociology)	(3)	NT 250 (Seminar in Nursing)
(3)	ENGL 104 (English Composition I)	(7)	NT 215 (Medical and Surgical Nursing II)
(7)	NT 214 (Medical and Surgical Nursing I)	(4)	NT 231 (Psychodynamic and Psychiatric Nursing II)
(4)	NT 230 (Psychodynamic and Psychiatric Nursing I)	(3)	Elective
<hr/> (17)		<hr/> (17)	

CERTIFICATE PROGRAMS

The certificate programs are designed primarily for the more mature part-time student through consultation with representatives from labor, industry, and the service areas of our society.

These are intensive and practical programs of less than 40 semester hours of credit. Advancement in each of these programs can be varied to suit the needs of the individual students who may take one, two, or three courses each semester. The average part-time student can complete any one of the programs within three years.

Enrollment is on the basis of a program carefully tailored to meet individual student needs and vocational objectives through consultation with an experienced counselor. Changes in the student's program arising out of new work assignments or changes in vocational objective may be worked out with his counselor.

Practical Industrial Electronics

This program is a laboratory type course of study with two three-hour classes a week. One hour of explanation of electrical principles and demonstration of the use of instruments is presented at each class meeting, accompanied by two hours of laboratory experience. Training is obtained by the actual use of modern electronic instruments. Trouble-shooting techniques are emphasized.

Training in mathematics is desirable, but it is not necessary that students have formal training in algebra, geometry, and trigonometry. The necessary mathematics is taught in the course. Students that pass an advanced standing examination will be admitted to the second semester or the second year course. High school graduation is not required.

FIRST YEAR

First Semester

(4) EET 15 (Basic Electricity)

Electrical terms; units, symbols; schematics; Ohm's Law; use of voltmeters, ammeters, and ohmmeters; series and parallel circuits, magnetism, inductance, capacitance. Basic principles of alternating current generators, capacitive reactance, inductive reactance, impedance, phasors, power factor, resonance, use of VTVM and oscilloscope.

Second Semester

(4) EET 23 (Transistor and Vacuum Tube Fundamentals)

Transistor fundamentals, semiconductor diodes, vacuum tube diodes, triodes, tetrodes, pentodes; use of oscilloscope, audio oscillators, and voltmeters in electronic circuits such as amplifiers, power supplies, and oscillators.

SECOND YEAR

Third Semester

(4) EET 39 (Electronic Circuits)

Transistors and vacuum tubes used in circuits. Power supply circuits, audio amplifiers, RF amplifiers, oscillators, modulation, AM transmitters and receivers, FM transmitters and receivers. Special electronic circuits such as clippers, clampers, multivibrators, blocking oscillators, sweep circuits. Trouble shooting techniques.

Fourth Semester

Two options are available:

Industrial Control Electronics

(4) EET 41 (Electronic Control Circuits)

Rotating electrical machinery and control circuits, servomechanism components such as error detectors, amplifiers, detectors, magnetic amplifiers. Specialized electronic control circuits.

Communications Electronics

(4) EET 45 (Communications Electronics)

Principles of television, UHF, microwaves, transmitters and receivers, FCC Exam information, trouble shooting techniques.

Professional Foremanship

The Professional Foremanship Certificate Program is an intensive and practical curriculum equivalent to 36 semester hours. It is intended to provide foremen with the professional education needed to handle the many supervisory and technical problems which they meet daily in technical, communications, and human relations fields.

The program has been set up by representatives of industry, professional foremen organizations, and the University. It is designed to meet the needs

of management, which is vitally concerned with training foremen for positions of leadership.

The Professional Foremanship Program is the certificate program counterpart of the industrial engineering technology two-year curriculum. Course selection is on the basis of a program worked out with the counselor assigned and is carefully tailored to individual needs.

Admission to the program is granted to those mature adults in management positions who meet the entrance standards and requirements.

Candidates may be admitted as degree or nondegree students. Specific questions concerning the program should be directed to the professional foremanship coordinator at the North Central Campus.

REQUIRED COURSES

(9 credit hours)

- (3) IET 104 (Industrial Organization and Production)
- (3) IS 152 (Human Relations in Industry)
- (3) COM 114 (Fundamentals of Speech Communication)

CORE CURRICULUM

(6 credit hours)

Two of the following three courses are required in the basic core curriculum.

- (3) IET 120 (Systems and Procedures)
- (3) IS 240 (Labor Relations Problems)
- (3) PSY 370 (Psychology in Business and Industry)

ELECTIVES

(9 credit hours)

Additional courses to make a total of 24 credit hours may be chosen in any approved combination.

MANAGEMENT EXPERIENCE

(Equivalent to 12 semester hours)

Before receiving the Professional Foremanship Certificate, the candidate must have had two years of successful experience in the management field. Satisfaction of this requirement is met by a confirming letter from the managerial employer under whom the candidate worked. Formal credit is not established for this work, but is considered equivalent to 12 semester hours of credit in the Professional Foremanship program.

BACHELOR OF SCIENCE DEGREE IN INDUSTRIAL EDUCATION

The Department of Industrial Education consists of two sections: industrial arts and vocational-technical. Each section is concerned with one or more programs and activities designed to equip men and women for entrance into career fields that require an intellectual base upon which practical applications of the knowledge gained in the humanities, the sciences, and the technologies depend. Thus, the courses provided offer a combination of theoretical and practical education.

Graduate and undergraduate programs which prepare students for entrance into a variety of careers in business, education, government, and industry are available. Students may elect to pursue an option or major which will lead to the degree of Bachelor of Science in Industrial Education with a specialty in one of the following areas:

1. Technology Teaching (Junior College and Technical Institute Teaching)
2. Industrial Arts Teaching
3. Vocational-Industrial Teaching

BACHELOR OF SCIENCE DEGREE FOR A.A.S. TECHNICIANS

Through its School of Technology, the University has recognized the need of the graduate of two-year Associate in Applied Science degree and similar curricula for further and broader education. New third- and fourth-year curricula have been especially developed to lead to the Bachelor of Science degree for such students.

The baccalaureate program provides the general education which permits the graduate to engage in a significantly broader span of activities. It provides a very important background in interdisciplinary studies and creates a greater potential for the graduate. It also enables the graduate to do additional work in his area of specialization.

This program was designed by the School of Technology with the active assistance of industry. It is offered to enable the engineering technician, and similar students who have completed an associate degree program, to improve his performance and increase significantly his promotability.

Graduate Study

GRADUATE COURSES are available at the Purdue North Central Campus. These courses are under the direction of their respective departments subject to the rules and regulations of the Graduate School of Purdue University. All courses offered by the University at any campus are subject to the same standards of quality.

ADMISSION

Students may be admitted to the Graduate School and undertake work at the North Central Campus in one of two categories: (1) regular graduate students, and (2) nondegree students.

Students enrolling in graduate courses who have been admitted to a graduate school should insure that the course in which they desire to enroll will be accepted in their plan of study.

Students who plan to be admitted to a graduate program in the future must understand that graduate courses taken prior to being admitted may or may not be approved by their graduate committee as a part of their degree requirements.

Regular Graduate Students

Students who have advanced degree objectives will be admitted as regular graduate students if they have the following qualifications:

They will ordinarily be expected to hold a baccalaureate degree from a college or university of recognized standing. Under special circumstances individuals who do not have a baccalaureate degree will be considered for admission if they have completed studies equivalent to those required for a baccalaureate degree program at Purdue.

All candidates for admission as regular graduate students must show promise, as judged by academic performance and experience, of ability to perform advanced study and research, and must have adequate preparation in their chosen field of study. Applicants must submit complete official transcripts of all previous college and university studies.

Nondegree Students

Such students are not admitted with advanced degree objectives and are not eligible to become candidates for advanced degrees under this classification.

Subclassifications at the North Central Campus are:

1. Temporary Graduate Students admitted on the basis of the educational services which can be extended to them in meeting their individual needs—other than degrees.

2. Teaching License Objectives. Intended for baccalaureate degree holders seeking to work on teacher license programs without degree objectives either preceding or following an advanced degree program.

GRADUATE ADVISING

Graduate programs are intended to be highly individualized, whenever feasible, thus each student is guided by a major professor and an advisory committee. Degree seeking students should contact the assigned graduate adviser for assistance.

GRADUATE RECORD EXAMINATION

An applicant who falls in one or more of the following four categories is expected to take the Aptitude Test Section of the Graduate Record Examination.

1. If he received his bachelor's degree from a nonaccredited institution.
2. If he expects to major in aeronautics, astronautics and engineering sciences, chemical engineering, child development and family life, clothing and textiles, economics, equipment and family housing, foods and nutrition, history, home management and family economics, industrial education, industrial relations, institutional management, nuclear engineering, physical education for women, political science, psychology, or sociology. Other departments may be added to this list.
3. If he feels that his previous academic record does not adequately reflect his ability.
4. If he is to be considered for certain fellowship programs. He will be informed of this requirement when he applies for the fellowship.

Information regarding testing dates and locations may be obtained by writing to the Educational Testing Service, Box 955, Princeton, New Jersey 08540.

GRADUATE COURSE DESCRIPTION

Descriptions of specific courses may be found in the graduate school catalog.

Description of Courses

Courses numbered 1 to 499 are primarily for undergraduate students. Courses numbered 500 to 599 are for undergraduates (usually juniors and seniors) and graduate students. Courses numbered 600 and above are for graduate students.

For each course the first line of the description should be interpreted as follows: first, the official number of the course; second, its special title; and third, the number of class, laboratory, and credit hours.

School of Agriculture

AGRICULTURE

AGR 101. AGRICULTURAL LECTURES.
Class 1, cr. 0.

To acquaint new students in agriculture

with the important problems and opportunities in the various fields of agriculture.

AGRICULTURAL ECONOMICS

AGEC 100. INTRODUCTORY AGRICULTURAL BUSINESS AND ECONOMICS. Class 3, cr. 3.

The role and characteristics of farm and off-farm agricultural businesses in our economy; introductory economic and business principles involved in successful organization, operation, and management.

AGEC 330. MANAGEMENT OF BUSINESS RELATED TO AGRICULTURE.
Class 3, cr. 3.

Management of the nonfarm firm, with emphasis on business selling to farmers and handling their products. Production; merchandising; advertising and sales promotion; financial management; employee relations; general administrative policy formulation and administration.

AGRONOMY

AGRY 105. CROP PRODUCTION. Class 2, Lab. 2, cr. 3.

Fundamental principles in crop production, distribution, rotations, soil relations; grain and forage crops adaptation, characteristics, harvesting, storage, and marketing.

AGRY 255. SOIL SCIENCE. Class 2, Lab. 2, cr. 3. Prerequisites: CHM 111 and 112, or equivalent.

Soil management and fertility. Designed for students taking only one course in soils.

ANIMAL SCIENCES

ANSC 101. ANIMAL AGRICULTURE. Class 3, cr. 3. (cl. 2 to 4 A).

Importance of livestock in the field of agriculture, and the place of meats and other animal products in the human diet.

ANSC 221. INTRODUCTION TO ANIMAL

NUTRITION. Class 3, cr. 3. Prerequisite: CHM 111 or 112, or equivalent.

A study of the digestive processes, composition of foodstuffs, nutritional requirements, and formulation of practical rations for farm animals.

HORTICULTURE

HORT 102. INTRODUCTION TO GENERAL HORTICULTURE. Class 3, cr. 3.

A study of the horticultural industry with emphasis on basic scientific, techno-

logical, and esthetic principles underlying the production, marketing and utilization of horticultural crops.

Schools of Engineering

FRESHMAN ENGINEERING

ENGR 100. FRESHMAN ENGINEERING LECTURES. Class 1, cr. 1.

An introduction to the engineering profession.

SCHOOL OF AERONAUTICS, ASTRONAUTICS, AND ENGINEERING SCIENCES

ESC 205. BASIC MECHANICS I. Class 3, cr. 3. Prerequisites: MA 162 and PHYS 152.

Fundamental concepts, force systems, graphical representation of force systems, equilibrium, distributed forces, hydrostatics, virtual work, static stability, friction. First and second moments of areas, volumes, and masses, center of gravity. Application to structural and machine elements, such as bars, beams, trusses, cables, friction devices.

ESC 206. BASIC MECHANICS II. Class 3, cr. 3. Prerequisites: ESC 205 or ESC 221 and MA 261.

Fundamental concepts, kinematics, translation, and rotation. Kinetics, impulse momentum, work, energy. Rectilinear and curvilinear translation of point masses. Plane motion of rigid bodies and vibration. Application to projectiles, gyroscopes, machine elements, and other engineering systems.

SCHOOL OF CIVIL ENGINEERING

EG 110. DRAFTING FUNDAMENTALS. Class 1, Lab. 6, cr. 3.

A basic course in drawing; orthographic projection, pictorial drawing, print reading, and reproduction of drawings. Problems designed to require practical reasoning and develop good techniques.

EG 113. SLIDE RULES AND GRAPHS. Lab. 2, cr. 1. Prerequisite or corequisite: MA 112 or 151.

Principles and use of the slide rule for division, multiplication, trigonometry, powers, and roots. Properties and types of coordinate graphs for scientific and engineering purposes; calculation and plotting graphs; uniform, log, semi-log, and others.

EG 118. ENGINEERING GRAPHICS. Class 1, Lab. 6, cr. 3. Prerequisite or corequisite: MA 161.

Basic graphical and pictorial methods, instrument and freehand, useful in engineering layout and design for analysis and communication. Multiview drawing with auxiliary views, sectioning, conventional practices and some dimensioning. Graphical techniques: vectors, calculus: differentiation and integration. Multiview resolution of intersections of plane and curved surfaces. Engineering lectures and counseling for scheduling by Department of Freshman Engineering.

School of Home Economics

F&N 303. ESSENTIALS OF NUTRITION. Class 3, cr. 3. No prerequisites. Credit not given for both F&N 303 and 315.

Basic nutrition and its application in

meeting needs of all ages. Consideration is given to food selection and legislation and community nutrition education programs.

School of Humanities, Social Science, and Education

COMMUNICATION

COM 114. FUNDAMENTALS OF SPEECH COMMUNICATION. Class 3, cr. 3.
(Not open to students who have credit for COM 115.)

A study of communication theories as applied to speech; practical communicative experiences ranging from interpersonal communication and small group process through problem identification and solution in discussion, to informative and persuasive speaking in standard speaker-audience situations.

COM 318. PRINCIPLES OF PERSUASION. Class 3, cr. 3. Prerequisite:

COM 114 or consent of instructor.

Persuasion and its effects on behavior with emphasis on evidence and reasoning and on emotional and personal proof; practice in critical reception as well as effective composition of persuasive discourse.

COM 320. GROUP DISCUSSION AND CONFERENCE LEADERSHIP. Class 3, cr. 3. Prerequisite: COM 114.

A study of group thinking and problem-solving methods; participation in and evaluation of committee and informal discussion groups.

CREATIVE ARTS

A&D 355. ART APPRECIATION. Class 3, cr. 3. Not open to freshmen.

Understanding and appreciation of the problems overcome by mankind in the origins and growth of art. Satisfies the aesthetics requirement of the School of Humanities, Social Science, and Education.

MUS 370. MUSIC APPRECIATION. Class 3, cr. 3.

An introduction to the understanding of music. How to listen to its materials. A study of the media, forms, styles, and composers through recorded, live, and film media. Methods used in the structure of music as well as the aesthetic values present in music are also emphasized. Satisfies the aesthetics requirements of the School of Humanities, Social Science, and Education.

EDUCATION

ED 249. DIRECTED OBSERVATION IN THE ELEMENTARY SCHOOL.* Lab. 3, cr. 1.

Directed observation for one-half day per week in elementary school classrooms. Individual and group conferences and written records are required.

ED 285. EDUCATIONAL PSYCHOLOGY. Class 3, cr. 3. Prerequisite: PSY 120.

An introduction to the application of

psychological theories, research results, and methods of inquiry to educational problems, with particular emphasis on human development, learning, and measurement.

ED 320. TEACHING THE LANGUAGE ARTS IN THE ELEMENTARY SCHOOL.* Class 3, cr. 3.

Materials and methods of teaching oral and written language, listening, spelling, and handwriting in the elementary school.

* Prerequisite: Admission to the elementary education curriculum.

ED 324. MUSIC FOR ELEMENTARY SCHOOL TEACHERS* Class 3, cr. 3.

Basic musical experience, including elementary music skills. Principles and procedures of teaching music. Relationship of music to other subject areas. Music materials.

ED 326. TEACHING READING IN THE ELEMENTARY SCHOOL.* Class 3, cr. 3.

Methods and materials for teaching reading in the elementary school.

ED 385. CASE STUDIES OF ELEMENTARY SCHOOL CHILDREN.* cr. 2 or 3. Prerequisite: ED 285, or consent of instructor.

Presents methods of collecting information about the behavior and development of elementary-age children and provides experience in using case studies in planning for individual children.

ED 481. TRENDS AND ISSUES IN ELEMENTARY EDUCATION.* Class 3, cr. 3.

The organization of learning experiences to deal effectively with individual differences and varied curriculum patterns. Consideration of recent trends and research—programmed learning, team teaching, departmentalization, self-contained and ungraded classroom, core program, and use of special professional services.

ED 510. PRINCIPLES AND PROBLEMS OF VOCATIONAL AND EDUCATIONAL GUIDANCE. Class 3, cr. 3. Prerequisite: 12 hours of psychology and education, or equivalent professional training.

The development of vocational and educational guidance in the home, school, industry, and service organizations; consideration of the principles and present practices in such guidance.

ED 511. GUIDANCE IN THE ELEMENTARY SCHOOL. Class 3, cr. 3. Prerequisite: 12 hours of education and psychology.

Guidance problems arising in the elementary school, and principles and techniques applicable to their solution. Role of the classroom teacher in providing services to pupils and parents.

ED 523. INTRODUCTION TO MEASUREMENT AND EVALUATION. Class 2, Lab. 2, cr. 3.

An introduction to the basic concepts and principles of measurement and evaluating, including elementary statistics, principles of test construction, survey of standardized tests.

ED 530. ADVANCED EDUCATIONAL PSYCHOLOGY. Class 3, cr. 3. Prerequisites: PSY 120 and ED 285.

Theories of learning and development, research on instruction and learning, and principles of measurement applied to educational problems.

ED 536. FOUNDATIONS FOR REMEDIAL READING. Class 3, cr. 3. Prerequisite: 12 hours of education and psychology.

First course in sequence leading to certification as a reading specialist, but may be elected by others needing basic information in reading. Considers history, psychology and physiology, and current practices in developmental and remedial reading.

ED 570. AUDIO-VISUAL AIDS FOR TEACHERS. cr. 2 or 3. Prerequisite: 12 hours of education and psychology.

Sources, selection, and effective use of audio-visual materials.

ED 571. PREPARATION OF INSTRUCTIONAL MATERIALS. Class 1, Lab. 4, cr. 3.

Design and preparation of a variety of instructional materials for use by instructional materials specialists, teachers, librarians, and A-V coordinators in educational situations. Laboratory practice is provided in production of these materials.

ED 580. LIBRARY MATERIALS FOR CHILDREN. Class 3, cr. 3. Prerequisite: five hours of education and psychology.

Selection and use of library materials for children.

ED 590. INDIVIDUAL RESEARCH PROBLEMS. cr. 1 to 6. Prerequisite: six hours of psychology and six hours of education, or equivalent professional training and approval by the department.

* Prerequisite: Admission to the elementary education curriculum.

Opportunities for students to study particular problems under the guidance of a member of the staff. This plan of individualized instruction may be used in any field of education or vocational education. Does not include thesis work.

ED 591. EDUCATIONAL PROBLEMS OF TEACHERS. cr. 3.

Primarily for experienced teachers desiring credit from special workshops or individual study. Topics of individual study will deal with problems which arise from the professional work of classroom teachers.

ED 600. HISTORY AND PHILOSOPHY OF EDUCATION. Class 3, cr. 3. Must be preceded by 12 hours in education.

Consideration of the major ideas, trends, and movements in the development of American education.

ED 627. SECONDARY SCHOOL CURRICULUM. cr. 2 or 3.

Objectives, organization, and administration of the secondary school curriculum.

ED 631. ELEMENTARY SCHOOL ADMINISTRATION. Class 3. cr. 3. Prerequisite: ED 546 or consent of instructor.

Study of role and responsibilities of the elementary school principalship; focus upon leadership functions in staff and pupil personnel, school and class organization, plant management, instructional and educational program, and school and community relations.

ED 632. SEMINAR: THE SCHOOL PRINCIPALSHIP. cr. 2-4. Prerequisite: ED 630 or 631.

Individual exploration in depth of selected aspects of the school principalship and critical analysis of related issues.

ED 671. RESEARCH PROCEDURES IN EDUCATION. cr. 3. Must be preceded by 12 hours of education and psychology.

Development of a philosophy of educational research and consideration of the methods for the selection and evaluation of techniques used in experimental studies in education. Techniques discussed are methods to control variables, the sampling procedures, the data collection procedures, the statistical procedures, and the drawing of inferences and conclusions from the data.

ED 676. READING IN THE ELEMENTARY SCHOOL. Class 3, cr. 3. Must be preceded by ED 376, its equivalent, or admission by consent of instructor.

Research, recent trends, and current developments in the field of reading instruction. Emphasis will be on improving developmental reading in the elementary school programs rather than on surveying remedial programs.

ED 679. ELEMENTARY SCHOOL CURRICULUM. Class 3, cr. 3. Must be preceded by 12 hours in education and psychology.

Needs of children and society; modern programs; procedures for developing a curriculum, including ways to improve the present offerings of a school.

ED 680. REVIEW OF RESEARCH IN ELEMENTARY EDUCATION. cr. 3. Must be preceded by ED 430 or equivalent.

A study of research important generally to elementary education. Critical analysis of research in one area of special interest.

ENGLISH

ENGL 103. COMPOSITION AND LITERATURE. Class 3, cr. 3. (Freshmen)

An introduction to composition and literature in which students will study the elements of good writing, various approaches to fiction, poetry, and drama, and basic literary terms.

For freshmen provisionally excused from ENGL 104. Required of all ENGL majors, who, if they are not originally as-

signed to it, qualify by making a C or higher in ENGL 104.

Students taking ENGL 103 as their first English course who receive grade C or higher will be excused from ENGL 105 and given credit for ENGL 104; those who receive grade D must take ENGL 104 or 105 depending upon the recommendation of the English 103 instructor; those who fail ENGL 103 must take both ENGL 104 and 105.

ENGL 104. ENGLISH COMPOSITION I.

Class 3, cr. 3. (Freshmen) Prerequisite for all courses in English except ENGL 2, 103, and 185.

Emphasis on the organization of the expository theme. Directed writing of themes based on personal experience, on the relationship between experience and language, and on the relationship between experience and ideas.

ENGL 105. ENGLISH COMPOSITION II.

Class 3, cr. 3. Not open to students who have earned a grade of C or higher in ENGL 103.

The second half of the basic composition sequence. Emphasis on the logical and rhetorical problems involved in writing.

ENGL 185. DEVELOPMENTAL READING.

Lab. 2, cr. 1.

Purpose: to increase reading efficiency by improving comprehension and by developing the motor skills involved in reading speed. Stimulates reading interest through use of films and pacers.

ENGL 230. INTRODUCTION TO LITERATURE. Class 3, cr. 3. Not open to students with credit for ENGL 238.

Reading and discussion of major works in English, American, and continental literature to develop an understanding of style, form, and ideas characteristic of great works. Emphasis on types of narrative literature.

ENGL 231. INTRODUCTION TO LITERATURE. Class 3, cr. 3.

Reading and discussion of major works in English, American, and Continental literature to develop an understanding of style, form, and ideas characteristic of great works. Emphasis on various types of literature.

ENGL 238. INTRODUCTION TO FICTION.

Class 3, cr. 3. Not open to students with credit for ENGL 230.

Reading and discussion of selected short stories and seven novels to promote awareness, understanding, and appreciation of the range, values, techniques, and meanings of reputable modern fiction.

ENGL 240. INTRODUCTION TO THE LITERATURE OF ENGLAND: FROM THE BEGINNINGS TO SWIFT AND POPE. Class 3, cr. 3.

A survey with emphasis on the study of selected texts from the major writers, this course aims at both competence in

literary analysis and awareness of the relation between each writer and his times. Required of all students majoring in English.

ENGL 241. INTRODUCTION TO THE LITERATURE OF ENGLAND: FROM THE RISE OF ROMANTICISM TO THE TWENTIETH CENTURY. Class 3, cr. 3.

A continuation of ENGL 240, this course carries the same study from the mid-eighteenth to the twentieth century. Required of all students majoring in literature.

ENGL 250. GREAT AMERICAN BOOKS. Class 3, cr. 3.

Seven books, such as *The Scarlet Letter*, *Moby-Dick*, and *Walden*, read and discussed as to their literary qualities and their cultural significance.

ENGL 286. VOCABULARY BUILDING. Lab. 2, cr. 1.

Development of vocabulary through study of the characteristics of the language, usage, and word formation; exercises and dictionary practice; selected readings.

ENGL 304. ADVANCED COMPOSITION. Class 3, cr. 3.

Designed for students who wish additional training in composition beyond the basic requirements. Extensive practice in the writing of mature expository, critical, and argumentative prose. (The course satisfies the Indiana certification requirement of three hours of advanced composition).

ENGL 350. A SURVEY OF AMERICAN LITERATURE TO WHITMAN. Class 3, cr. 3. Should be preceded by ENGL 240 and 241. Not open to students who have credit for ENGL 250.

Selected writings of all major authors—such as Franklin, Emerson, Hawthorne—and some minor writers are read and discussed as to their individual qualities, the forces exerted on them, and their expression of the American mind and character. Required of all students majoring in American literature.

ENGL 351. A SURVEY OF AMERICAN LITERATURE FROM WHITMAN TO THE PRESENT. Class 3, cr. 3. Should be preceded by ENGL 240 and 241. Not open to students who have credit for ENGL 250.

Continuation of ENGL 350. Required of all students majoring in American literature.

ENGL 372. INTRODUCTION TO AMERICAN FOLKLORE. Class 3, cr. 3.

Introduction to the study of Anglo-American traditions: folk tale, song, dance, humor, superstition, games, beliefs, etc., with emphasis on informal discussion of readings, recordings, movies, and lectures.

ENGL 405. CREATIVE WRITING. Class 3, cr. 3. (May be repeated for credit.)

Informally conducted for students who enjoy writing—of any kind except the narrowly technical—and concerned with problems of form, style, diction, sentence structure. Workshop criticism.

ENGL 442. SIX PLAYS BY SHAKESPEARE. Class 3, cr. 3.

Shakespeare's dramatic craftsmanship, poetry, humor, characterization, psychology, and modern pertinence illustrated in representative tragedies, comedies, and history plays. One play studied intensively; others read more rapidly. Required of all students majoring in literature.

ENGL 455. MAIN CURRENTS OF AMERICAN THOUGHT. Class 3, cr. 3.

A survey of dominant ideas and intellectual trends in America from 1607 to the present as revealed through American literature and as related to American life and culture.

ENGL 460. WORLD LITERATURE: ANCIENT, MEDIEVAL, AND RENAISSANCE PERIODS. Class 3, cr. 3.

Western world literature in translation, primarily Greek, Hebrew, and early European—the basis of our cultural heritage; and particular attention to Homer, Greek drama, Plato, the Bible, and Renaissance writers.

ENGL 461. WORLD LITERATURE: EIGHTEENTH, NINETEENTH, AND TWENTIETH CENTURIES. Class 3, cr. 3.

Western world literature in translations and in English originals from about 1700 to the present; the changes and growth in our cultural heritage, as reflected primarily in French, English, German, and Russian imaginative writing.

ENGL 471. THE ENGLISH NOVEL. Class 3, cr. 3.

Studies in the historical development of the English novel, with reading and discussion of representative works of the eighteenth and nineteenth centuries.

ENGL 472. THE AMERICAN NOVEL. Class 3, cr. 3.

Reading and discussion of representative American novels from Hawthorne to Faulkner, emphasizing major trends in purpose, content, and technique. Supplementary lectures on background materials.

ENGL 479. THE SHORT STORY. Class 3, cr. 3.

A historical and critical study of nineteenth and twentieth century short stories—Irish, British, American, and continental.

ENGL 493. DIRECTED READING. cr. 1 to 3. Admission by consent of instructor. (May be repeated for credit.)

Directs the reading of students with special interests. Guides students in profitable reading in subjects of their own choice. Individual conferences only—no class meetings.

DUAL LEVEL—UNDERGRADUATE AND GRADUATE

(General prerequisite for all English literature courses numbered above 500: six hours of composition and six hours of literature, or permission of the instructor.)

ENGL 533. TUDOR LITERATURE. Class 3, cr. 3.

Nondramatic literature of the English Renaissance up to 1603, particularly Elizabethan. Representative selections in both prose and verse are studied, with special attention to Spenser, Sidney, and Shakespeare.

ENGL 535. RESTORATION AND EARLY EIGHTEENTH-CENTURY LITERATURE. Class 3, cr. 3.

A survey of the nondramatic literature from 1660 to 1744, from Clarendon through Thomson. Emphasizes Bunyan, Dryden, Pope, and Swift.

ENGL 547. THE ROMANTIC MOVEMENT ENGLISH LITERATURE. Class 3, cr. 3.

Principal writers of the Romantic Movement (Burns to Keats), emphasizing

ing Wordsworth; relation of the historical background to the thought and feeling of the writers concerned.

ENGL 548. VICTORIAN LITERATURE. Class 3, cr. 3.

A survey of English poetry and prose from about 1832 to about 1880.

ENGL 558. THE RISE OF REALISM IN AMERICAN LITERATURE. Class 3, cr. 3.

A survey of American literature from about 1855 to 1900, beginning with Whitman and ending with James and the early naturalists.

ENGL 580. LITERATURE AND MODERN THOUGHT. Class 3, cr. 3.

Readings in literature, philosophy, and social criticism, concentrated on the political, industrial, and scientific revolutions that have molded modern life and thought.

HISTORY

HIST 200. EARLY CIVILIZATION. Class 3, cr. 3.

A survey of European development from earliest times through the sixteenth century, this course is designed to meet the needs of the beginning student in European and world history.

HIST 201. DEVELOPMENT OF MODERN CIVILIZATION. Class 3, cr. 3.

A continuation of HIST 200, tracing the expansion of Europe into the Americas, Africa, and Asia. The French Revolution, nationalism, and the development of Western European states from the sixteenth century to the present are studied.

HIST 251. AMERICAN HISTORY TO 1865. Class 3, cr. 3.

A study of the development of American political, economic, and social institutions from the early explorations and colonial settlements to the conclusion of the Civil War.

HIST 252. THE UNITED STATES AND ITS PLACE IN WORLD AFFAIRS. Class 3, cr. 3.

A study of the growth of the United States from the period of the Reconstruc-

ENGL 590. DIRECTED WRITING. cr. 1 to 3. Prerequisite: Consent of the instructor. (May be repeated for credit.)

Writing—creative, popularly technical, biographical, historical, philosophical — on subjects of the student's choice. Individual conferences only. No class meetings.

ENGL 595. CONTEMPORARY AMERICAN FICTION. Class 3, cr. 3.

Study of fiction of the past two or three decades as it relates to American literary traditions and thought. Survey of scholarship and criticism. Examinations and critical papers.

ENGL 693. DIRECTED READING. cr. 1 to 3. Admission by consent of instructor.

Directs the reading of students with special interests. Guides students in profitable reading in subjects of their own choice. Individual conferences—no class meetings. May be repeated for credit.

tion to the present. The new industrialism, agrarian problems, territorial expansion, the two world wars, depression, the New Deal, and similar topics are analyzed.

DUAL LEVEL—UNDERGRADUATE AND GRADUATE

HIST 566. INDUSTRIALISM AND THE PROGRESSIVE ERA, 1877 TO 1914. Class 3, cr. 3. Prerequisite: HIST 252.

A survey of late nineteenth and early twentieth century American history covering the industrial and corporate development, the Spanish-American War and the resulting imperialism; and the growth of governmental regulation and control.

HIST 567. RECENT AMERICAN HISTORY. Class 3, cr. 3. Prerequisites: HIST 251 and 252.

A study of twentieth century American history into the depression thirties. Domestic political and social developments will be traced from 1914 to 1939, while diplomatic and military events will be covered from the early twentieth century

to 1933. Particular attention will thus be given to the First World War and the Great Depression.

HIST 586. DIPLOMATIC HISTORY OF THE UNITED STATES. Class 3, cr. 3.

Prerequisites: HIST 200 and 201, or HIST 251 and 252.

The history of American foreign affairs

since the Colonial period viewed in the perspective of their relationship to international politics in modern times. Changes in United States policy as a reflection of changing power status and objectives are traced. The general issues of interests and ideals and the clash between national goals and international organization are examined.

MODERN LANGUAGES

French

FR 101. FIRST COURSE IN FRENCH. Class 3, Lab. 1, cr. 3. For beginners only.

Unless recommended by the head of the school in which the student is registered, a student may not apply toward graduation the credit for FR 101 without satisfactorily completing a more advanced course in French.

FR 102. SECOND COURSE IN FRENCH. Class 3, Lab. 1, cr. 3. Prerequisite: FR 101.

Continuation of FR 101.

FR 203. THIRD COURSE IN FRENCH. Class 3, cr. 3. Prerequisite: FR 102.

Readings from works of modern and contemporary French writers; practice in speaking and writing French.

FR 204. FOURTH COURSE IN FRENCH. Class 3, cr. 3. Prerequisite: FR 203.

Continuation of FR 203.

German

GER 101. FIRST COURSE IN GERMAN. Class 3, Lab. 1, cr. 3. For beginners only.

Unless recommended by the head of the school in which the student is registered, a student may not apply toward graduation the credit for GER 101 without satisfactorily completing a more advanced course in German.

GER 102. SECOND COURSE IN GERMAN. Class 3, Lab. 1, cr. 3. Prerequisite: GER 101.

Continuation of GER 101.

GER 203. THIRD COURSE IN GERMAN. Class 3, cr. 3. Prerequisite: GER 102.

Readings from the works of nineteenth century and contemporary German writers; practice in speaking and writing German.

GER 204. FOURTH COURSE IN GERMAN. Class 3, cr. 3. Prerequisite: GER 203.

Russian

RUSS 101. FIRST COURSE IN STANDARD RUSSIAN. Class 3, Lab. 1, cr. 3. For beginners only.

Unless recommended by the head of the school in which the student is registered, a student may not apply toward graduation the credit for RUSS 101 with-

out satisfactorily completing a more advanced course in Russian.

RUSS 102. SECOND COURSE IN STANDARD RUSSIAN. Class 3, Lab. 1, cr. 3. Prerequisite: RUSS 101.

Continuation of RUSS 101.

Spanish

SPAN 101. FIRST COURSE IN SPANISH. Class 3, Lab. 1, cr. 3.

For students who have had no previous work in Spanish.

Unless recommended by the head of the school in which the student is registered, a student may not apply toward graduation the credit for SPAN 101 without

satisfactorily completing a more advanced course in Spanish.

SPAN 102. SECOND COURSE IN SPANISH.
Class 3, Lab. 1, cr. 3. Prerequisite: SPAN 101.

SPAN 203. THIRD COURSE IN SPANISH.
Class 3, cr. 3. Prerequisite: SPAN 102.

Reading from the works of nineteenth century and contemporary Spanish writers: practice in speaking and writing Spanish.

SPAN 204. FOURTH COURSE IN SPANISH (READING). Class 3, cr. 3.
Prerequisite: SPAN 203.

Primary emphasis on reading, but some practice in speaking.

PHILOSOPHY

PHIL 110. INTRODUCTION TO PHILOSOPHY. Class 3, cr. 3.

The basic problems and types of philosophy with special emphasis upon the problems of knowledge and nature of reality.

PHIL 111. ETHICS. Class 3, cr. 3.

A study of the nature of moral value and obligation. Topics such as the following will be considered: different conceptions of the good life and standards of right conduct; the regulation of non-moral and moral goodness; determinism, free will, and the problem of moral responsibility; the political and social di-

mensions of ethics; the principles and methods of moral judgment. Readings will be drawn both from contemporary sources and from the works of such philosophers as Plato, Aristotle, Aquinas, Butler, Hume, Kant, and J. S. Mill.

PHIL 150. PRINCIPLES OF LOGIC. Class 3, cr. 3.

A study of the principles and methods employed in the logical appraisal of arguments. Topics such as the following will be considered: semantic principles and problems; informal fallacies; syllogistic logic; truth-functional logic; the logic of quantification; and inductive logic.

POLITICAL SCIENCE

POL 101. AMERICAN GOVERNMENT AND POLITICS. Class 3, cr. 3.

A study of the nature of democratic government, the U.S. Constitution, federalism, civil rights, political dynamics, the presidency, Congress, and the judiciary.

POL 103. MAJOR EUROPEAN GOVERNMENTS. Class 3, cr. 3.

Introductory survey of major European governments, including mainly Great Britain, France, Germany, and the Soviet Union, with special attention to historical, cultural, and constitutional developments, the organization and ideologies of political parties, and current political problems.

POL 230. INTERNATIONAL RELATIONS.
Class 3, cr. 3.

Introductory survey of the underlying forces in international relations, the foreign policies of the great powers, and agencies of control and cooperation.

POL 350. INTRODUCTION TO POLITICAL THEORY: ANCIENT AND MEDIEVAL. Class 3, cr. 3. No prerequisites.
An analysis of the most important con-

cepts found in the writings of outstanding political theorists from the time of the Greeks through the end of the Middle Ages with attention paid to writings of the Reformation period. An examination of two systems of political thought in the western political tradition: the Classical and the Christian. The ideas of the theorists are studied in the light of the society and institutions of their time.

POL 370. INTRODUCTION TO COMPARATIVE STATE POLITICS. Class 3, cr. 3.

An introduction to the structure and process of state government, including the legal and political relationships between the state and local units of government.

POL 429. CONTEMPORARY POLITICAL PROBLEMS. Class 3, cr. 3. Prerequisite: POL 101 or 301. (Formerly POL 529.)

Contemporary political problems in the United States affecting the interpretation of democracy, human rights and welfare, social pressures, intergovernmental relations.

DUAL LEVEL—UNDERGRADUATE AND GRADUATE

POL 510. POLITICAL PARTIES AND POLITICS. Class 3, cr. 3.

A study of political leadership, pressure groups, political parties, nominating processes, campaign strategies, voting behavior, and money in elections.

PSYCHOLOGY

PSY 120. ELEMENTARY PSYCHOLOGY. Class 3, cr. 3.

Introduction to the fundamental principles of psychology, covering particularly the topics of personality, intelligence, emotion, attention, perception, learning, memory, and thinking.

PSY 200. INTRODUCTORY PSYCHOLOGICAL LABORATORY. Class 1, Lab. 4, cr. 3. Prerequisite: PSY 120 or equivalent.

An introduction to laboratory techniques in learning, perception, motivation, and social behavior.

PSY 235. CHILD PSYCHOLOGY. Class 3, cr. 3. Prerequisite: PSY 120 or equivalent.

PSY 301. INTRODUCTION TO STATISTICS. Class 2, Lab. 2, cr. 3. Prerequisite: PSY 120.

Introduction to basic statistical concepts including such descriptive statistics as averages, measures of variability, and correlation, as well as an introduction to inferential statistics.

PSY 302. PSYCHOLOGICAL MEASUREMENT. Class 2, Lab. 2, cr. 3. Prerequisite: PSY 201.

Introduction to the general theory and method of psychological measurement in-

cluding psychophysics, scaling procedures, and the use of psychological tests as measuring devices.

PSY 311. MOTIVATION AND LEARNING. Class 3, cr. 3. Prerequisite: six hours of psychology.

History, theory, and research in motivation and learning

PSY 350. ABNORMAL PSYCHOLOGY. Class 3, cr. 3. Prerequisite: three hours of psychology.

Various forms of mental disorder from the standpoint of their origin, treatment, prevention, social significance, and relation to problems of normal human adjustment.

PSY 423. PSYCHOLOGY OF PERSONALITY. Class 3, cr. 3. Prerequisite: three hours of psychology.

The development, structure, and functioning of the normal personality.

DUAL LEVEL—UNDERGRADUATE AND GRADUATE

PSY 500. STATISTICAL METHODS APPLIED TO PSYCHOLOGY, EDUCATION, AND SOCIOLOGY. Class 2, Lab. 2, cr. 3.

Descriptive statistics and an introduction to sampling statistics. Application to psychological, sociological, and educational data.

SOCIOLOGY

ANTH 305. AN INTRODUCTION TO CULTURAL ANTHROPOLOGY. Class 3, cr. 3.

An introduction to the science of man and his works. Emphasis on the nature of culture and culture change; relationship of culture and personality. Attention given to the variations with the "universal" institutions of man: language, technology, the family, systems of social control, economics, warfare, religion, art, and values. Processes of invention, diffusion and acculturation; theoretical inter-

pretations of the direction and process of cultural development.

SOC 100. INTRODUCTORY SOCIOLOGY. Class 3, cr. 3. May not be taken for credit by students of junior or senior standing.

A survey course designed to introduce the student to the science of human society. Fundamental concepts, description and analysis of society, culture, the socialization process, social institutions, and social change.

SOC 220. SOCIAL PROBLEMS. Class 3, cr. 3. Prerequisite: SOC 100 or 312, or equivalent.

Analysis of problem conditions in modern society—family disorganization, racial conflicts, class struggle, mental illness, narcotic addiction, gambling, alcoholism, and others. Social factors involved in the development, continued existence, and amelioration of these conditions.

SOC 312. AMERICAN SOCIETY. Class 3, cr. 3. Students with freshman standing (or who have had SOC 100) may not enroll in this course without special permission.

An introduction to sociological perspective. Detailed consideration of the fundamental structure, social changes, and related problems of the major American institutions: family, economic order, political organization, education, and religion.

SOC 340. GENERAL SOCIAL PSYCHOLOGY. Class 3, cr. 3. (Not open to students with credit for PSY 340.) Prerequisite: three hours of psychology or of sociology.

Conditions and consequences of human behavior in social situations, emphasis

upon the mechanism and the processes on the basis of which socialization takes place.

SOC 350. MARRIAGE AND FAMILY RELATIONSHIPS. Class 3, cr. 3. (Not open to students who have had CDFL 350.)

Designed to provide an understanding of contemporary courtship, marriage, and family interaction as cultural, social, and social-psychological phenomena. Consideration of the major sources of marital strain and conflict within a heterogeneous, rapidly changing society.

SOC 383. INTRODUCTION TO METHODS OF SOCIAL RESEARCH. Class 3, cr. 3. Prerequisite: six hours of sociology. (Formerly SOC 480.)

Introduction to the methods of data collection and analysis and to the use of the scientific method in social research.

Formulation of hypotheses and research designs for their testing. Elementary principles for the conduct of experiments, observation and interviewing, documentation, content analysis, and surveys. Relationship between social research and social theory.

School of Industrial Management

ECONOMICS

ECON 210. PRINCIPLES OF ECONOMICS.* Class 3, cr. 3.

Study of the basic economic institutions, such as business, labor organizations, banks, and government. Analysis of the effects of competition, monopoly, and government on allocation of resources in production and consumption; factors affecting size and growth of national income.

ECON 212. PRINCIPLES OF ECONOMICS II.* Class 3, cr. 3. Prerequisite: ECON 210.

Continuation of ECON 210. Emphasis is on developing a detailed understanding of the principles of microeconomics and analysis and their application to understanding price and market behavior.

ECON 472. LEGAL FOUNDATIONS OF BUSINESS. This course has been replaced by INDM 457.

* Several economics courses generally cover the same material although they differ in detail in order to serve the needs of the several schools. ECON 210, 216 and 219 are oriented toward macro-economics while ECON 212 and 215 are more concerned with micro-economics. Credit will be given for only one of ECON 210, 216 and 219 as well as only one of 212 and 215.

DUAL LEVEL—UNDERGRADUATE AND GRADUATE

ECON 553. LABOR LAW I. This course has been replaced by INDM 553.

ECON 554. LABOR LAW II. This course has been replaced by INDM 554.

ECON 585. THE UNITED STATES AND THE WORLD ECONOMY IN RECENT TIMES. Class 3, cr. 3. Limited to students in the Master of Arts in Teaching (Economics) Program.

Economic history of the United States with primary emphasis upon topics related to economic growth and development in the nineteenth and twentieth centuries.

INDUSTRIAL MANAGEMENT

INDM 100. MANAGEMENT LECTURES. Class 1, cr. 1.

An introduction and survey of the field of industrial management.

INDM 200. INTRODUCTORY ACCOUNTING. Class 3, cr. 3 or Class 2, Lab. 2, cr. 3.

Introduction to the fundamentals of accounting.

INDM 201. COST ACCOUNTING. Class 3, cr. 3. Prerequisite: INDM 200 or equivalent.

Nature of cost accounting; job order, process, and standard cost methods. Preparation and uses of various types of cost reports.

INDM 202. FINANCIAL ACCOUNTING. Class 3, cr. 3. Prerequisite: INDM 200.

Study of financial problems in the valuation of assets and realization of income with emphasis on contemporary areas such as accelerated depreciation, leasing, price level changes, business combinations, and taxation.

INDM 457. LEGAL FOUNDATIONS IN BUSINESS. Class 3, cr. 3. (Formerly ECON 472.) Prerequisite: senior standing in industrial management or consent of department.

Nature of our legal system and its significance for management. Social and moral basis of law, nature and enforce-

ment of legal liability. Cases dealing with contracts, torts, negotiable instruments, and related topics.

DUAL LEVEL—UNDERGRADUATE AND GRADUATE

INDM 553. LABOR LAW I. Class 3, cr. 3. Prerequisite: INDM 430 or consent of instructor. (Formerly ECON 553.)

A study of the common law and statutory law affecting union-management relations, with emphasis on current labor legislation including such areas as the National Labor Relations Act and amendments, the Railway Labor Act, wage and hour legislation, workmen's compensation, and social security laws.

INDM 554. LABOR LAW II. Class 3, cr. 3. Prerequisite: INDM 553 or graduate status. (Formerly ECON 554.)

A continuation of INDM 553. Intensive study of development and current status of law of union-management relations. Labor and the antitrust laws, injunctions, arbitration law, and current legal regulation of labor relations.

INDM 585. INDUSTRIAL RELATIONS. Class 3, cr. 3. For graduate students only except by permission of instructor.

Study of the administration of the industrial relations function in the business firm. Role of line and staff in manpower and management.

School of Pharmacy and Pharmacal Sciences

PCOL 201. PHARMACOLOGY FOR NURSES. Class 3, cr. 3

An introduction to the pharmacological basis of therapeutics.

School of Science

BIOLOGICAL SCIENCES

BIOL 103. PRINCIPLES OF BIOLOGY. Class 2, Lab. 2, cr. 3.

The nature of the living state, and experimental approaches in studying it.

BIOL 104. PRINCIPLES OF BIOLOGY. Class 2, Lab. 2, cr. 3.

Continuation of BIOL 103.

BIOL 108. INTRODUCTION TO BOTANY. Class 3, Lab. 3, cr. 4.

Introduction to the growth, functioning, structures, heredity, diversity of plants, and their interactions with the environment.

BIOL 109. INTRODUCTION TO ZOOLOGY. Class 2, Lab. 4, cr. 4.

Introduction to the structure, functioning, heredity, development, classification, and evolution of animals, and their interactions with the environment.

BIOL 201. BIOLOGY OF MAN. Class 2, cr. 2.

Introduction to human biology with emphasis on anatomy and physiology.

BIOL 202. LABORATORY IN HUMAN BIOLOGY. Lab. 2, cr. 1. Corequisite: BIOL 201.

BIOL 203. BIOLOGY OF MAN. Class 2, cr. 2.

Continuation of BIOL 201.

BIOL 204. LABORATORY IN HUMAN BIOLOGY. Lab. 2, cr. 1. Corequisite: BIOL 203.

BIOL 205. BIOLOGY FOR ELEMENTARY SCHOOL TEACHERS. Class 2, Lab. 2, cr. 3.

Introduction to biology applicable to teaching in the elementary schools, including aspects of conservation, safety, nutrition, personal and public health.

BIOL 206. BIOLOGY FOR ELEMENTARY SCHOOL TEACHERS. Class 2, Lab. 2, cr. 3.

Continuation of BIOL 205.

BIOL 220. INTRODUCTION TO MICROBIOLOGY. Class 2, Lab. 3, cr. 3. Prerequisites: one year of general chemistry and one semester of a life science.

The isolation, growth, structure, functioning, heredity, identification, classification, and ecology of microorganisms, their role in nature and significance to man.

BIOL 260. STRUCTURAL BIOLOGY. Class 2, cr. 2. Prerequisite: BIOL 104 or equivalent.

Structure of plants and animals, with emphasis on functional and phylogenetic relationships.

BIOL 261. LABORATORY IN STRUCTURAL BIOLOGY. Lab. 4, cr. 2. Prerequisite or corequisite: BIOL 260.

BIOL 285. ENVIRONMENTAL BIOLOGY. Class 2, Lab. 3, cr. 3. Prerequisites: BIOL 260 and a year of general chemistry.

Adaptation and competition, and the relationship of organisms to their physical environment. Natural selection and other aspects of evolution; origin and integration of species and communities; ecosystems.

CHEMISTRY

CHM 111. GENERAL CHEMISTRY. Class 2, Lab. 3, cr. 3.

Required for all freshmen registered in the School of Agriculture or in biology options of the School of Science who are

not in CHM 115 or 117.

CHM 112. GENERAL CHEMISTRY. Class 2, Lab. 3, cr. 3.

Continuation of CHM 111.

CHM 115. GENERAL CHEMISTRY. Class 3, Lab. 3, cr. 4.

Required of students majoring in chemistry, physics, and engineering who do not take CHM 117-126.

Laws and principles of chemistry, with special emphasis on topics of importance in engineering. Numerical problems and relationships are introduced whenever quantitative treatment is possible.

CHM 116. GENERAL CHEMISTRY. Class 3, Lab. 3, cr. 4.

A continuation of CHM 115.

CHM 119. GENERAL CHEMISTRY. Class 2, Lab. 3, cr. 3.

A survey of general chemistry with emphasis on topics of importance to biol-

ogy. Offered only for students in the technology programs.

CHM 255. ORGANIC CHEMISTRY. Class 3, cr. 3. Prerequisite: CHM 108, 110, 112, 116, or 118.

CHM 255L. ORGANIC CHEMISTRY LABORATORY. Lab. 3, cr. 1.

Laboratory experiments to accompany CHM 255.

CHM 256. ORGANIC CHEMISTRY. Class 3, cr. 3.

Continuation of CHM 255.

CHM 256L. ORGANIC CHEMISTRY LABORATORY. Lab. 3, cr. 1.

Laboratory experiments to accompany CHM 256.

DIVISION OF MATHEMATICAL SCIENCES

Special Service

MA 1. HIGH SCHOOL ALGEBRA. Class 1-5, cr. 0. Credit: one unit for admission.

MA 2. PLANE GEOMETRY. Sem. 1 and 2. Class 5, cr. 0. Credit: one unit for admission.

MA 111. ALGEBRA. Class 3, cr. 3. (On West Lafayette Campus, given only for Applied Technology Curricula. Not transferable from Regional Campuses except in Applied Technology Curricula.)

MA 112. TRIGONOMETRY. Class 3, cr. 3. Not open to students with credit in MA 151 or MA 153.

For freshmen and others with two units of high school algebra.

MA 123. ELEMENTARY CONCEPTS OF MATHEMATICS I. Class 3, cr. 3. Not open to students with credit in MA 133.

Numeration systems; natural numbers; mathematical systems; mathematical reasoning; elementary set theory; elementary logic; mathematical proof; the number system of arithmetic; arithmetic algorithms.

MA 124. ELEMENTARY CONCEPTS OF MATHEMATICS II. Class 3, cr. 3. Prerequisite: MA 123. Not open to students with credit in MA 133.

The system of integers; rational numbers; polynomials; the real and complex number systems; elements of plane geometry; relations, functions, and graphs; elements of analytic geometry.

MA 133. MATHEMATICS FOR ELEMENTARY TEACHERS. Class 4, cr. 4. Not open to students with credit in MA 123.

Numeration systems; finite mathematical systems; abstract mathematical systems, groups, fields; natural numbers through rationals, a structural approach, properties, algorithms; mathematical reasoning and proof.

The sequence MA 133-134 fulfills the mathematical requirements for elementary education majors. MA 123-124 may be substituted for MA 133 in meeting this requirement.

MA 134. MATHEMATICS FOR ELEMENTARY TEACHERS II. Class 4, cr. 4. Prerequisite: MA 133 or MA 124.

Informal study of metric and nonmetric properties of geometric figures (primarily in a plane), measurement; introduction to foundations of Euclidean geometry.

The sequence MA 133-134 fulfills the mathematics requirements for elementary education majors. MA 123-124 may be substituted for MA 133 in meeting this requirement.

MA 151. ELEMENTARY MATHEMATICS FOR ENGINEERING AND THE PHYSICAL SCIENCES. Class 5, cr. 5. Not open to students with credit in MA 153 or MA 154.

College algebra and trigonometry for students with inadequate preparation for MA 161. Does not carry credit toward graduation in the Schools of Engineering or the Division of Mathematical Sciences.

MA 153. ALGEBRA AND TRIGONOMETRY I. Class 3, cr. 3. Not open to students with credit in MA 151.

MA 153-154 is a two-semester version of MA 141. Does not carry credit toward graduation in the Schools of Engineering or the Division of Mathematical Sciences.

MA 154. ALGEBRA AND TRIGONOMETRY II. Class 3, cr. 3. Not open to students with credit in MA 151. Continuation of MA 153.

Does not carry credit towards graduation in the Schools of Engineering or the Division of Mathematical Sciences.

MA 161. PLANE ANALYTIC GEOMETRY AND CALCULUS I. Class 5, cr. 5.

Analytic geometry and calculus: derivatives of algebraic functions. Required of all students majoring in mathematics, physics, chemistry, and all engineering students. Students with inadequate preparation will be required to take MA 151.

MA 162. PLANE ANALYTIC GEOMETRY AND CALCULUS II. Class 5, cr. 5. Prerequisite: MA 161.

Calculus: integrals, application of derivatives and integrals, formal integration.

MA 223A. INTRODUCTORY ANALYSIS I. Class 3, cr. 3. Prerequisite: MA 151A or equivalent.

Elementary properties of algebraic systems; the real number system; analytic geometry, differential and integral calculus of one variable. Applications to problems in technology.

MA 224A. INTRODUCTORY ANALYSIS II. Class 3, cr. 3. Prerequisite: MA 223A.

Partial derivatives; calculus of finite differences; differentials; multiple integrals; introduction to difference and differential equations. Applications to problems in technology.

MA 261. MULTIVARIATE CALCULUS. Class 4, cr. 4. Prerequisite: MA 162.

Calculus: Indeterminate forms, parametric equations, solid analytic geometry, partial differentiation, multiple integrals, infinite series.

MA 262. LINEAR ALGEBRA AND DIFFERENTIAL EQUATIONS. Class 4, cr. 4. Prerequisite: MA 261.

Calculus: Linear algebra, elements of differential equations.

MA 351. ELEMENTARY LINEAR ALGEBRA. Class 3, cr. 3. Prerequisite: MA 261.

Systems of linear equations, finite dimensional vector spaces, matrices, determinants, applications to analytic geometry.

MA 361. ADVANCED CALCULUS AND DIFFERENTIAL EQUATIONS. Class 3, cr. 3. Prerequisite: MA 351.

Eigenvalues, partial differentiations, total differential, maxima and minima, line integrals, differential equations.

DUAL LEVEL—UNDERGRADUATE AND GRADUATE

MA 547. ANALYSIS FOR TEACHERS I. Class 3, cr. 3. Prerequisite: MA 261.

Inequalities, sequences, functions, limits. Application to such basic concepts as length and area and their implications for the teacher of mathematics. The real number system and topology of the real line.

MA 548. ANALYSIS FOR TEACHERS II. Class 3, cr. 3. Prerequisite: MA 547.

Elementary functions and basic theorems of calculus.

MA 550. ALGEBRA FOR TEACHERS I. Class 3, cr. 3. Prerequisite: MA 351 or graduate standing.

Definitions and elementary properties of groups, rings, integral domains, fields, vector spaces, and matrices, with major emphasis on the rings of integers, rational numbers, complex numbers and polynomials. Intended primarily for secondary school teachers.

MA 551. ALGEBRA FOR TEACHERS II. Class 3, cr. 3. Prerequisite: MA 550.

A continuation of MA 550.

MA 556. INTRODUCTION TO THE THEORY OF NUMBERS. Class 3, cr. 3. Prerequisite: MA 261.

Divisibility, congruences, quadratic residues, Diophantine equations, the sequence of primes.

MA 563. ADVANCED GEOMETRY. Class 3, cr. 3.

A critique of Euclid's "Elements" and a detailed study of Hilbert's postulates with an introduction to non-Euclidean geometry. Primarily for prospective secondary school teachers.

MA 581. INTRODUCTION TO LOGIC FOR TEACHERS. Class 3, cr. 3. Prerequisites: MA 351 and MA 361.

Sentential and general theory of inference and nature of proof: elementary axiom systems.

COMPUTER SCIENCES

CS 220. INTRODUCTION TO ALGORITHMIC PROCESSES. Class 3, cr. 3. Co-requisite: one semester of mathematics beyond MA 151. Not open to students with credit in CS 200 or 210.

Introduction to the intuitive notion of an algorithm; representation of algorithms in narrative form as flow charts and as computer programs; general struc-

ture of computers; computer experience using a procedure-oriented language in programming algorithms such as those used in elementary numerical calculations, sorting, stimulation of a random process and symbol manipulation; definition and use of functions, subroutines and iterative procedures; survey of a variety of significant uses of computers.

STATISTICS

STAT 401. ELEMENTARY STATISTICAL METHODS I. Class 3, cr. 3. Prerequisite: College algebra. Not open to students in the Division of Mathematical Sciences and Engineering.

A basic introductory statistics course with applications shown to various fields and emphasis placed on assumptions, ap-

plicability, and interpretations of various statistical techniques. Subject matter includes frequency distributions, descriptive statistics, elementary probability, normal distribution applications, sampling distribution, estimation, hypothesis testing, and linear regression.

DEPARTMENT OF PHYSICS

PHYS 152. MECHANICS AND SOUND. Class 4, cr. 3. Prerequisite or co-requisite: MA 162.

Statics; uniform and accelerated motion; Newton's laws; circular motion; energy, momentum, and conservation principles; dynamics of rotation; gravitation and planetary motion; properties of matter; simple harmonic and wave motion; sound.

PHYS 152L. LABORATORY IN MECHANICS AND SOUND. Lab. 2, cr. 1. Corequisite: PHYS 152.

PHYS 205. SURVEY OF PHYSICS. Class 5, cr. 4. Prerequisite: MA 111 or equivalent.

General physics for students of agriculture and forestry.

PHYS 210. THE NATURE OF PHYSICAL SCIENCE I. Class 2, Lab. 3, cr. 3.

Development of basic concepts and theories in physical science; a terminal course.

PHYS 220. GENERAL PHYSICS. Class 3, Lab. 2, cr. 4. Prerequisites: MA 111 and 112, or 151, or equivalent.

Mechanics, heat, and sound for students not specializing in physics.

PHYS 221. GENERAL PHYSICS. Class 3, Lab. 2, cr. 4. Prerequisite: PHYS 220.

Electricity, light, and modern physics for students not specializing in physics.

PHYS 251. HEAT, ELECTRICITY, AND OPTICS. Class 5, Lab. 2, cr. 5.
Prerequisites: PHYS 152 and 152L.

Heat, kinetic theory, elementary thermodynamics, heat transfer. Electrostatics, current electricity, electromagnetism, magnetic properties of matter; geometrical and physical optics.

PHYS 342. MODERN PHYSICS. Class 4, cr. 3. Prerequisite: PHYS 241, or 251, or 261.

A survey of basic concepts and phenomena in atomic, nuclear, and solid state physics.

School of Technology

ARCHITECTURAL TECHNOLOGY

ART 118. ARCHITECTURAL PROJECTION. Lab. 6, cr. 2.

Introduction to projection, intersections, shading and shadows, and perspective drawing.

ART 120. FREEHAND DRAWING I. Lab. 6, cr. 2.

Freehand sketching using pencil, charcoal, ink.

ART 121. FREEHAND DRAWING II. Lab. 6, cr. 2.

Continuation of ART 120, use of colors.

ART 150. ARCHITECTURAL CONSTRUCTION I. Lab. 9, cr. 3. Prerequisite: ART 118 or EG 110.

Problems of wood frame structures, such as houses, including details, and elementary design.

ART 164. BUILDING MATERIALS. Class 2, cr. 2.

Properties and use of materials as found in building construction.

ART 172. SYSTEMS OF CONSTRUCTION. Class 2, cr. 2.

Survey of different types of construction, including wood, steel, and reinforced concrete and curtain walls, considering the characteristics, advantages, and limitations.

ART 210. HISTORY OF ARCHITECTURE I. Class 3, cr. 3.

Survey of styles and influences of cultures which led to the development of architecture from the earliest times to the present day.

ART 222. ARCHITECTURAL CONSTRUCTION II. Lab. 9, cr. 3. Prerequisite: ART 150.

Projects in moderate sized buildings using various building materials. Transmission of this knowledge in the form of construction drawings.

ART 224. ARCHITECTURAL CONSTRUCTION III. Lab. 9, cr. 3. Prerequisite: ART 222.

Continuation of ART 222 with emphasis on larger and more complex structures.

ART 276. SPECIFICATIONS AND CONTRACT DOCUMENTS. Class 2, cr. 2.

Preparations of general conditions and major phases of building construction specifications, study agreements, contracts, liens, and bonds.

ART 280. QUANTITY SURVEY. Class 2, Lab. 3, cr. 3. Prerequisites: ART 150.

Approximate and detailed methods of estimating materials and labor required to erect a building.

ART 284. MECHANICAL EQUIPMENT OF BUILDINGS. Class 3, cr. 3.

Survey course of different types of systems and their applications.

CIVIL ENGINEERING TECHNOLOGY

CET 104. ELEMENTARY SURVEYING. Class 2, Lab. 3, cr. 3. Prerequisite or corequisite: MA 112 or MA 151A or equivalent.

Measurement of distances, elevations, directions, and angles, using tape, level, compass, and transit. Computation of areas, traverses, lines, and grades.

CET 208. ROUTE SURVEYING. Class 1, Lab. 3, cr. 2. Prerequisite: CET 104.

Preliminary and construction surveys for highways and railroads, including simple, compound, reverse, and easement curves, superelevation of curves, profiles, grade lines, slope stakes, yardage estimates, and mass and haul diagrams.

CET 299. CIVIL ENGINEERING TECHNOLOGY. cr. 1-4.

Hours to be arranged with the staff. Primarily for third and fourth semester students. Subject matter to be assigned by the staff.

COMPUTER TECHNOLOGY

CPT 100. COMPUTER UTILIZATION. Class 2, Lab. 3, cr. 3.

An introduction to data processing techniques through the use of unit record and high-speed computer equipment. Emphasis will be on how computers can assist the technologist. Theory will be reinforced by laboratory demonstration. One laboratory hour will be scheduled; two laboratory hours will be arranged.

CPT 101. INTRODUCTION TO COMPUTERS. Class 3, cr. 3.

An introduction to computers and data processing. The historical development of unit record equipment and electronic digital computers; a brief introduction to machine language, assembly language, FORTRAN, and COBOL programming; and a survey of computer applications.

CPT 111. UNIT RECORD DATA PROCESSING. Class 2, Lab. 2, cr. 3.

This course illustrates the concept, power, and flexibility of the unit record and the need for machines in accounting and record keeping. The importance and the scope of unit record equipment as an independent system will be developed throughout the course. Laboratory exercises will involve the card punch, verifier, sorter, interpreter, reproducing punch, collator, accounting machine and calculator. Practical exercises offered will involve planning and wiring a range of unit record equipment and will be typical of those performed in the existing electronic machine installations.

CPT 122. COMPUTER MATH. Class 3, cr. 3. Prerequisite or corequisite: MA 151A.

Selected topics in mathematics that are related to business and computer computations. Topics include: symbolic logic, binary, octal, and hexadecimal number systems; determinates; matrices; and linear systems.

CPT 131. ASSEMBLY LANGUAGE PROGRAMMING I. Class 2, Lab. 2, cr. 3.

Programming of a digital computer at the machine language and assembly language levels with emphasis on the meticulous step by step development of a program. Topics include: computer hardware, stored program concepts, operation codes, addresses, flow diagrams and assembly language translators. In the laboratory, students write, process, and debug programs using the computer on an open shop basis.

CPT 132. ASSEMBLY LANGUAGE PROGRAMMING II. Class 2, Lab. 2, cr. 3. Prerequisite: CPT 131.

Advanced symbolic programming techniques, programming exercises and case studies are designed to familiarize the student with actual programming practices and to bridge the gap from the theoretical to the real world of data processing.

CPT 200. COMPUTER PROGRAMMING FUNDAMENTALS. Class 2, Lab. 2, cr. 3.

The presentation of the basic elements of programming digital computers. There is a treatment of absolute and symbolic coding, magnetic tape functions, and random access processing. Major emphasis will be on compiler language (FORTRAN) programming.

CPT 220. NUMERICAL ANALYSIS I. Class 2, Lab. 2, cr. 3. Prerequisite: MA 151A and CPT 264.

Numerical methods necessary for finding solutions to mathematical equations and for analysis of tabulated data. A laboratory course consisting chiefly of the solution of specific problems by computer programming and other methods. Topics include: iterative and direct solutions of linear equations, matrix operations, and error analysis.

CPT 225. STATISTICAL METHODS. Class 3, cr. 3.

An introduction to elementary statistics with emphasis on the analysis of actual data. Topics include: description and representation of sample data, probability, theoretical distributions, sampling, estimating, correlation, regression, and computer statistical routines.

CPT 254. COMMERCIAL SYSTEMS ANALYSIS. Class 3, Lab. 2, cr. 3. Prerequisites: CPT 131, IET 104, and INDM 200.

An introduction to the problems of developing integrated data processing systems for more efficient handling of the data flow in modern business. The student will produce reports needed by management, prepare flowcharts, design forms, and write procedures for designated systems.

CPT 264. FORTRAN PROGRAMMING. Class 2, Lab. 2, cr. 3. Prerequisite: CPT 131. Prerequisite or corequisite: MA 151A.

The structure and details of FORTRAN, a mathematically oriented com-

piler language. Numerous problems are solved on the computer to demonstrate the many facets of the language.

CPT 265. COBOL PROGRAMMING. Class 2, Lab. 2, cr. 3. Prerequisite: CPT 131.

A study of two programming languages, COBOL and Report Program Generator, which are oriented toward data handling and processing tasks. The student will study the structure and details of these languages and perform programming exercises as well as consider practical applications.

CPT 284. UTILITY PROGRAMS. Class 2, Lab. 2, cr. 3. Prerequisites: CPT 131 and CPT 264.

This course is designed to familiarize the student with existing programs normally found in operating data processing centers. These include sort/merge routines, supervisory routines, report generators, random access utility programs, magnetic tape routines, etc.

CPT 294. COMPUTER SEMINAR AND FIELD TRIPS. cr. 1.

A survey of a wide variety of computers currently in use. Lectures cover the latest innovations in computer hardware. Field trips are taken to inspect various types of computer installations.

CPT 299. COMPUTER TECHNOLOGY. Class 0-9, Lab. 0-9, cr. 1-4.

Hours and credit to be arranged. Primarily for students who desire to execute a project from start to finish on the computer.

ELECTRICAL ENGINEERING TECHNOLOGY

PERSONAL SERVICE COURSES (No credit toward degrees)

EET 15. BASIC ELECTRICITY. Class 2, Lab. 4, cert. units 4.

Basic electrical terms, units, symbols, and schematics are discussed. Equipment such as voltmeters, ohmmeters, ammeters, generators, and oscilloscopes are demonstrated. Magnetism, inductance, capacitance series and parallel circuits are considered. Basic principles of alternating current, capacitive reactance, inductive reactance, impedance, phasors, power factor, and resonance are studied.

EET 23. TRANSISTOR AND VACUUM TUBE FUNDAMENTALS. Class 2, Lab. 4, cert. units 4.

Transistor fundamentals, semiconductor diodes, vacuum tube diodes, triodes, tetrodes, pentodes are discussed. The use of oscilloscopes, audio oscillators, and voltmeters in electronic circuits such as amplifiers, power supplies, and oscillators is considered.

EET 39. ELECTRONIC CIRCUITS. Class 2, Lab. 4, cert. units 4.

Transistors and vacuum tubes used in circuits are considered. Power supply cir-

cuits, audio amplifiers, RF amplifiers, oscillators, modulation, AM transmitters and receivers, FM transmitters and receivers are discussed. Special electronic circuits such as clippers, clampers, multivibrators, blocking oscillators, sweep circuits are studied. Troubleshooting techniques are emphasized.

EET 41. ELECTRONIC CONTROL CIRCUITS.
Class 2, Lab. 4, cert. units 4.

Rotating electrical machinery and control circuits, servomechanism components such as error detectors, amplifiers, detectors, magnetic amplifiers are considered. Specialized electronic control circuits are discussed.

EET 45. COMMUNICATIONS ELECTRONICS.
Class 2, Lab. 4, cert. units 4.

Principles of television, UHF, microwaves, transmitters and receivers, FCC exam information, troubleshooting techniques are considered.

UNDERGRADUATE LEVEL

Lower-Division Courses

EET 101. ELECTRICAL CIRCUITS I. Class 3, cr. 3. Prerequisites or corequisites: MA 151A, EET 113.

A study of DC and AC electrical circuits, Ohm's Law, Kirchhoff's Laws, series and parallel circuits, power, magnetic circuits, switches, relays, inductance, capacitance, alternating voltages and currents, transformers, reactance, impedance, phase relationships, resonance, and an introduction to network theorems.

EET 103. ELECTRONICS I: VACUUM TUBES AND TRANSISTORS. Class 2, cr. 2. Prerequisite or corequisite: EET 101 or equivalent.

Introduction to electron tubes, transistors, and solid state diodes. A study of the physical structure and materials as well as operation and static characteristics of the diode, triode, tetrode, and pentode vacuum tubes. A study of semiconductor materials, diodes, and transistor static characteristics and an introduction to amplifiers. Also orientation on university organization and industrial careers.

EET 113. ELECTRICAL ENGINEERING TECHNOLOGY LABORATORY I. Lab. 6, cr. 2. Prerequisites or corequisites: EET 101 and EET 103.

The first of a sequence of practical laboratory courses designed to develop technical skills and techniques in circuit construction, instrument operation, testing,

measuring, troubleshooting, and circuit analysis. Instruments such as ammeters, voltmeters, ohmmeters, DC bridges, and oscilloscopes are used in DC and AC circuits.

EET 151. ELECTRICAL CIRCUITS II. Class 3, cr. 3. Prerequisite: EET 113 and prerequisite or corequisite: MA 223A.

A continuation of EET 101. The study of inductance; capacitance; network theorems; AC circuits using phasors, rectangular and polar forms; transformers; coupled circuits; nonsinusoidal voltages; transients; and polyphase circuits.

EET 153. ELECTRONICS II. Class 3, cr. 3. Prerequisite or corequisite: EET 151.

The application of electron tubes, transistors and other solid state devices in electronic circuits. A study of rectifiers, equivalent circuits, voltage amplifiers, tuned amplifiers, oscillators, and diode logic circuits. Introduction to AM and FM receivers and transmitters.

EET 163. ELECTRICAL ENGINEERING LABORATORY II. Lab. 6, cr. 2. Prerequisite or corequisite: EET 153.

The second of a sequence of practical laboratory courses designed to develop technical skills and techniques in circuit construction, testing, instrument operation, measuring, troubleshooting and circuit analysis. Experimental work on transistors and electron tube circuits, DC and AC networks, and electromechanical devices, using ammeters, voltmeters, wattmeters, oscilloscopes, signal generators, wavemeters, frequency meters, and bridges.

EET 203. ELECTRONICS III. Class 3, cr. 3. Prerequisite: EET 163.

The study of regulated power supplies, polyphase rectifiers, filters, AM receivers and transmitters, FM receivers and transmitters, waveshaping, clippers, clampers, peakers, multivibrators, blocking oscillators, and logic circuits.

EET 211. ELECTRIC MACHINERY. Class 3, cr. 3. Prerequisite: EET 163.

A first course in machinery including small generators and motors as related to applications in electronic and servo systems. The study of DC machines and AC single- and multi-phase synchronous and induction machines.

EET 213. ELECTRICAL ENGINEERING TECHNOLOGY LABORATORY III.

Prerequisites or corequisites: EET 203 and EET 211. Lab. 6, cr. 2.

The third of a sequence of practical laboratory courses designed to develop technical skills and techniques in circuit construction, testing, instrument operation, measuring, troubleshooting, and circuit analysis. Experimental work and measurements on power supply circuits, filters, receivers, transmitters, electrical machines, waveshaping circuits, sweep circuits, logic circuits and commercial equipment and selected experiments from the student's specialty.

EET 216. ELECTRICAL MACHINES AND CONTROLS. Class 3, cr. 3. Prerequisites: MA 151A and GNT 176 or equivalent.

Lecture, recitation, and demonstration are combined to acquaint the student with the elements of electrical circuits and machines as they are applied as component parts of machine drives and controls within the requirements of the National Electrical Code and in conformity to the ratings and dimensional specifications of NEMA. Manufacturers catalogs and pamphlets are used freely as classroom aids.

EET 253. ELECTRONICS IV. Class 3, cr. 3. Prerequisite: EET 213.

A study of the applications of the fundamental electrical and electronic circuits in various specialty areas. Includes selected topics such as oscillators, synchronizing and sweep circuits, high-voltage power supplies, wide-band amplifiers, closed-loop feedback systems, transmission lines, UHF, VHF, radar, digital circuits, medical electronics, magnetic amplifiers, and lasers.

EET 263. ELECTRICAL ENGINEERING TECHNOLOGY LABORATORY IV.

Lab. 3, cr. 1. Prerequisite or corequisite: EET 253.

Selected experiments to provide a broad technical background. Experiments are selected from specialty areas such as communications, electrical power, television, computers, medical electronics, automatic controls, and aviation electronics.

UNDERGRADUATE LEVEL

Upper-Division Courses

EET 301. ELEMENTS OF MACHINE CONTROL. Class 3, cr. 3. Prerequisite: EET 211.

The study of AC and DC machine controls. Includes relays, protective relays, circuit breakers, controllers, and contractors.

EET 302. ELECTRO-MECHANICAL CONTROL COMPONENTS. Class 3, cr. 3. Prerequisites or corequisites: EET 203 and EET 211.

A study of the components in open-loop and closed-loop systems. Included are sensing devices, error detectors, potentiometers, synchros, resolves, modulators, demodulators, amplifiers, motors, generators, and networks. An analysis course that stresses operation, time- and frequency-response characteristics, and proper adjustment of the components.

EET 303. COMMUNICATIONS I. Class 3, cr. 3. Prerequisite or corequisite: EET 203.

An advanced study of AM and FM modulation, receivers, transmitters, networks, filters, antennas, transmission lines, and television.

EET 307. PULSE CIRCUITS. Class 3, cr. 3. Prerequisite or corequisite: EET 203.

A study of waveshaping, pulse generation, switching, logic circuits used in digital computers, sweep circuits, and synchronization.

EET 321. GENERATION AND DISTRIBUTION OF ELECTRICAL POWER.

Class 3, cr. 3. Prerequisite or corequisite: EET 211.

A study of the transmission and distribution of electrical energy from the generating station to the consumer. A study of the power plant, electrical power generation, transformers, distribution and transmission, and power system loading.

EET 363. FCC EXAM PREPARATION. Class 1, cr. 1. Prerequisite: consent of instructor.

Review of electrical and electronic theory and the study of rules and regulations of the Federal Communications Commission to prepare for the first and second class FCC license. The FCC license is required for the operation and maintenance of many types of communications, broadcast, industrial, and aviation equipment.

GENERAL STUDIES

GNT 136. PHYSICS: MECHANICS AND HEAT. Lect. 2, Rec. 2, Lab. 2, cr. 4. Prerequisites or corequisites: MA 111 and 112 or MA 151A.

Work, energy, power, efficiency of simple machines, equilibrium conditions for solids, liquids, and gases; straight line and rotational motion—uniform and accelerated motion. Elementary principles of heat and their technical applications.

INDUSTRIAL EDUCATION

IED 110. INTRODUCTION TO INDUSTRIAL EDUCATION. Class 1, cr. 1.

Overview of industrial education with

EET 376. ELECTRONIC TROUBLESHOOTING LABORATORY. Class 1, Lab. 3, cr. 2. Prerequisite or corequisite: EET 213.

Experimental work in analyzing and repairing equipment. The use of test instruments to locate faulty components in AM and FM receivers, television, and industrial circuits.

GNT 176. PHYSICS: ELECTRICITY, SOUND, AND LIGHT. Lect. 2, Rec. 2, Lab. 2, cr. 4. Prerequisite: GNT 136.

Fundamental principles of electricity, wave motion, sound, and light.

GNT 220. TECHNICAL REPORT WRITING. Class 3, cr. 3.

Extensive application of the principles of good writing in industrial reporting, with emphasis on the techniques of presenting information graphically as well as in a clear, concise written form.

emphasis upon its function and structure in industry and the public school.

INDUSTRIAL ENGINEERING TECHNOLOGY

IET 104. INDUSTRIAL ORGANIZATION. Class 3, cr. 3. Not open to students who have completed IET 105 and/or IET 106.

A detailed survey of organizational, financial, marketing, and accounting activities; duties of management, planning, control, personnel, safety, wages, policy, and human factors necessary for effective management.

IET 120. SYSTEMS AND PROCEDURES. Class 3, cr. 3.

An introduction to the systems concept. Surveys recognizing and defining the system's problem; the management audit and tools for systems analysis; design and control of forms, work simplification, work measurement and procedures; operations research; punched card systems; management and administration; and organization of the systems function.

IET 204. TECHNIQUES OF MAINTAINING QUALITY. Class 2, Lab. 3, cr. 3. Prerequisite: MA 151A.

An analysis of the basic principles of quality control. Includes statistical aspects of tolerances, basic concept of probabilities, frequency distribution, X & R charts and uses of mechanical, electronic, air and light devices for checking and measuring to determine quality levels of acceptance.

IET 220. CRITICAL PATH ANALYSIS. Class 1, Lab. 3, cr. 2.

Detailed study of planning and control of a schedule by network techniques, including the time/cost analysis of CPM scheduling for application on construction projects, job shop scheduling and related problems. Includes an introduction to PERT and the use of the computer for network analysis.

IET 224. PRODUCTION PLANNING AND CONTROL. Class 2, Lab. 3, cr. 3. Prerequisites: MET 180 and IS 152.

Preproduction planning of the most economical methods, machines, operations, and materials for the manufacture of a

product. The planning, scheduling, routing, and detailed procedure of production control.

IET 250. FUNDAMENTALS OF PRODUCTION COST ANALYSIS. Class 2, Lab. 3, cr. 3. Prerequisite or corequisite: IET 104.

Surveys of fundamental mechanics of accounting, principles of account classification, financial and operating statements, and the generation of cost data according to cost accounting principles. Surveys the generation of cost data according to the principles of engineering economy. Examines applications of cost accounting data and engineering economy cost data to specific management decision areas through selected case problems.

IET 262. MOTION STUDY AND WORK METHODS. Class 2, Lab. 3, cr. 3. Prerequisite: IS 152; prerequisite or corequisite: MA 112 or equivalent.

The study of the various techniques of motion study including process charts, operation charts, multiple activity charts, micro and memo motion study, therbligs, the movie camera, along with actual practice in their use. Includes study and application of the basic principles used to develop better methods of performing work.

IET 266. WORK MEASUREMENT AND INCENTIVES. Class 2, Lab. 3, cr. 3. Prerequisite: IET 262.

A study of the fundamentals of time study and work measurement with actual practice in their use. Includes stop watch time study, measuring work with movie camera, the establishment of allowances by both stop watch and work sampling

studies, the establishment and use of predetermined time values, and the construction and use of work measurement formulae.

IET 272. JOB EVALUATION. Class 2, cr. 2. Prerequisites: IS 152 and MA 112.

A survey of the basic principles and significance of job evaluation. An analysis of current practices and techniques used in job analysis, job descriptions, and job evaluation.

IET 280. WAGE INCENTIVES. Class 2, cr. 2. Prerequisites: IET 260 and 272.

An analysis and study of various types of wage incentive plans, their significance, adaptability, effectiveness, and equitability. A systematic appraisal of the basic objectives and currently used techniques in the administration of wage incentive programs.

IET 296. INDUSTRIAL TECHNOLOGY CASE PROBLEMS. Class 2, cr. 2.

Application of theories developed in the several industrial technology courses to select general case problems—to provide practice in the integration of principles.

IET 312. MATERIALS HANDLING. Class 3, cr. 3. Prerequisite: IET 104.

A survey of materials handling elements, the unit load, packaging, bulk handling, the economics of materials handling, improving existing handling methods, justification for handling equipment, special handling techniques, and the management of the materials handling divisions in the industrial organization.

INDUSTRIAL SUPERVISION

IS 152. HUMAN RELATIONS IN INDUSTRY. Class 3, cr. 3.

Study of the bases of human relations and the organization of individual and group behavior. Special emphasis on typical industrial and business relationships in everyday situations. Examines fundamental relationships between behavior and personal and group forces.

IS 240. LABOR RELATIONS PROBLEMS. Class 3, cr. 3.

Introduction and overview of the industrial personnel manager's occupation. Educational and other characteristics related to the functions performed and the services rendered.

MECHANICAL ENGINEERING TECHNOLOGY

MET 100. APPLIED ENGINEERING COMPUTATIONS. Lab. 3, cr. 1.

Practical application of the proper use of the slide rule, desk calculator and introduction to the electronic computer and dimensional analysis. How to draw graphs and introduction to means of their reproduction.

MET 180. MATERIALS AND PROCESSES. Class 2, cr. 2.

Application and characteristics, both physical and chemical, of the materials most commonly used in industry; the mechanical processes by which materials may be shaped or formed.

MET 200. POWER SYSTEMS. Class 3, cr. 3. Prerequisite: GNT 136; prerequisite or corequisite: MET 216.

A survey of steam and nuclear power plants, internal combustion engines, gas turbines, pumps, compressors, fans and blowers, refrigeration. Some theory in thermodynamics, combustion of fuels, heat transfer. Power generation and application to various fields with special mention of transportation.

MET 204. PRODUCTION DRAWING. Lab. 6, cr. 2. Prerequisite: EG 110; prerequisite or corequisite: MET 180.

Preparation of working drawings from layouts, drafting simplification, functional dimensioning, assembly drawings, detailing of machine elements, working with manufacturers' catalogs, applying fits, limits and tolerances to dimensions for interchangeable manufacture; information as to material, physical treatment, and manufacturing processes. The student works from layouts with a minimum of information so that self reliance in detailing may be developed.

MET 210. APPLIED STATICS. Class 2, cr. 2. Prerequisite or corequisite: MA 151A.

Force systems, resultants and equilibrium, centroids of areas and centers of gravity of bodies, trusses, frames, beams, friction and moments of inertia of areas and bodies.

MET 211. APPLIED STRENGTH OF MATERIALS. Class 4, cr. 4. Prerequisite: MET 210; prerequisite or corequisite: MA 223A.

Principles of applied strength of materials primarily with reference to mechanical design.

MET 212. MECHANICS OF MATERIALS. Class 4, cr. 4. Prerequisite or corequisite: MA 112 and GNT 136.

Forces acting on rigid bodies at rest and in motion-embracing vectors, force and moment laws of equilibrium for various force systems, centroids, center of gravity and moments of inertia, stress and strain, riveted and welded joints, torsion, shear, bending and deflection of beams, combined stresses and columns.

MET 216. MACHINE ELEMENTS. Class 4, cr. 4, or Class 3, Lab. 2, cr. 4. Prerequisites: MET 204, MET 211 and MA 223A.

A survey of the more important elements used in tools and machines, and their general characteristics pertaining to application, operational behavior, efficiency, economy, and standardization.

MET 232. DYNAMICS. Class 3, cr. 3. Prerequisite: MET 216.

Basic fundamentals of dynamics; displacement, velocities, accelerations, work, energy, power, impulse, momentum, and impact.

MET 236. JIG AND FIXTURE DESIGN. Lab. 6, cr. 2.

Application of principles in the design and construction of drilling, milling, reaming and assembly jigs and fixtures; information related to materials, heat treatment and cost estimating. Gaging characteristics, selection and design for interchangeable manufacture.

MET 256. MATERIAL FABRICATION. Class 2, cr. 2. Prerequisite or corequisite: MET 180.

A study of the physical characteristics of metals and non-metals with respect to their behavior during fabrication; methods of material removal; elementary aspects of machine tool operation and tooling requirements.

NURSING

NT 100. DIRECTED READING. Class 1, cr. 1.

An exploration of contemporary writing related to nursing and the health sciences. The course includes an introduction to the various sources of relevant information and opportunities to systematically study topics of individual interest. Emphasis is placed upon the synthesis of subject material for intra-group presentation.

NT 110. INTRODUCTION TO NURSING. Class 3, Lab. 6, cr. 5.

This course presents commonalities of the fundamental processes of illness, basic concepts in nursing and fundamental skills in patient care. Content is developed through use of problem-solving method in the classroom, university and hospital laboratory, and students' oral and written communications.

NT 120. MATERNAL AND CHILD NURSING. Class 3, Lab. 6, cr. 5.

The nursing concepts in maternal and child nursing are related to the emerging family group throughout the maternity cycle, childhood, and adolescence. Deviations from the normal maternity cycle and diseases and conditions common in child development are included. Emphasis will be placed on the physical, social, and emotional responses to health and illness. Appropriate community resources are utilized as available.

NT 214. MEDICAL AND SURGICAL NURSING I. Class 4, Lab. 9, cr. 7.

The content of this course involves the individual's response to malfunction of the body processes. Emphasis is placed on the nursing problems involved in the prevention of disease and promotion of health of the adult medical and surgical patient. Content is based upon scientific principles from allied fields and includes nursing care, treatment, drug therapy, and dietary management.

NT 215. MEDICAL AND SURGICAL NURSING II. Class 4, Lab. 9, cr. 7.

This course is a continuation of NT 214 and utilizes scientific principles from the allied fields. Learning opportunities are directed towards greater depth of understanding of the complex nursing care which includes treatment, dietary management and drug therapy.

NT 230. PSYCHODYNAMIC AND PSYCHIATRIC NURSING I. Class 2, Lab. 6, cr. 4. Corequisite: NT 214.

NT 214 and NT 230 must be taken concurrently due to correlated instruction. The content of this course presents behavior reactions of the patient to the various symptoms and limitations he experiences as a result of illness. Correlated with this is the nurse's own behavior in response to the patient's behavior and his illness.

NT 231. PSYCHODYNAMIC AND PSYCHIATRIC NURSING II. Class 2, Lab. 6, cr. 4. Prerequisite: NT 215.

NT 215 and NT 231 must be taken concurrently due to correlated instructions. NT 231 is a continuation of NT 230, stressing the patient's behavior and the nurse's reaction. Based on knowledge previously acquired, this course enlarges upon the principles and techniques of the nurse's role in the multiple approaches and therapies currently used in treating patients who are mentally ill.

NT 250. SEMINAR IN NURSING. Class 3, cr. 3.

This course enables the student to identify and understand the historical basis for problems in nursing and to become aware of the nurse's responsibility toward solution of these problems. Content also includes career opportunities, professional organizations, community and world health organizations, legal and ethical implications and methods of planning and assigning nursing care.

Administration and Instructional Staff

- CHARLES A. ABRAHAM (1969)...Lecturer in Industrial Engineering Technology
B.S., Indiana, 1950; M.S., 1960.
- JAMES E. ALRED (1964)...Lecturer in Mechanical Engineering Technology
B.S.M.E., Tennessee Polytechnic, 1956.
- GEORGE W. BACK (1969)...Bursar
B.S., Southern Illinois, 1969.
- JESS M. BARTHOLOMEW (1966)...Instructor in Electrical Engineering Technology
A.B., William Jewell, 1925.
- LOUIS E. BEDNAR (1965)...Assistant Professor of Mathematics
B.S.Ed., Western Illinois, 1963; M.S., Northern Illinois, 1965.
- ROBERT M. BERRY (1969)...Lecturer in Psychology
B.S., Arkansas, 1960; M.A., 1967; Ph.D., 1969.
- JOHN K. BLACK (1967)...Business Manager
B.S.I.M., Purdue, 1964.
- JAMES R. BLACKWELL (1965)...Assistant Dean of North Central Campus; Associate Professor of Industrial Engineering Technology; Regional Manager, North Central Region
B.S., Purdue, 1941; M.A., Louisville, 1953; M.B.A., George Washington, 1964.
- LEONARD R. BLYTHE (1968)...Graduate Instructor in Education
B.A., Wheaton, 1956; M.S., Purdue, 1966.
- RAYMOND M. BOBILLO (1962)...Assistant Professor of Industrial Engineering Technology
B.S., Ball State, 1950; M.B.A., Illinois Institute of Technology, 1967.
- RONALD G. BOHLEY (1967)...Librarian and Assistant Professor of Library Science
B.A., Purdue, 1964; M.A., Indiana, 1967.
- LOUIS F. BONESS, JR. (1969)...Associate Professor of Computer Technology
B.A., Valparaiso, 1951; M.B.A., Chicago, 1969.
- JUNE M. BOSTICH (1969)...Instructor in English
B.A., California, Riverside, 1964; M.A., 1966.
- ANITA O. BOWSER (1956)...Assistant Professor of Political Science
A.B., Kent State, 1945; LL.B., William McKinley School of Law, 1949; M.A., Purdue, 1967.
- WILLIAM C. BOYD (1966)...Coordinator of Continuing Education with the rank of Assistant Professor
B.M., Michigan, 1936; M.Mus., Michigan State, 1941.
- DONALD R. BRADLEY (1968)...Lecturer in Industrial Engineering Technology
B.S., Southern Illinois, 1961.
- WILLIAM J. BROWN (1969)...Lecturer in Computer Technology
B.S., Wayne State, 1959.
- WILFRED BRILL (1967)...Assistant Professor of Physics
B.A., Manchester, 1952; M.S., Purdue, 1955; Ph.D., 1964.
- DAVID BRUBECK (1967)...Director, Buildings and Grounds
B.S.C.E., Purdue, 1941.
- PATRICIA W. BRUBECK (1967)...Lecturer in Art and Design
B.A., New Mexico, 1966; M.A.T., Indiana, 1967.
- EDWIN F. BUCK (1966)...Assistant Professor of Communication
B.A., Emmanuel Missionary, 1944; M.A., Andrews, 1964; Ph.D., Michigan State, 1968.
- CHARLES V. CHESNUL, JR. (1969)...Lecturer in English
A.B., Illinois, 1954; M.A., Chicago, 1955.
- TILFORD R. CLINE (1966)...Assistant Professor of Animal Science
B.S., Illinois, 1960; M.S., 1962; Ph.D., 1966.
- JAMES M. CLOUSER (1968)...Lecturer in Electrical Engineering Technology
B.S.E.E., Lehigh, 1968.
- DAVID J. COONS (1969)...Lecturer in Marketing
B.S.J., Northwestern, 1961; M.S.J., 1966.
- DELORES F. CRANE (1969)...Lecturer in English
B.A., Purdue, 1967; M.A., 1969.
- RUTH DANALD (1967)...Instructor in Modern Languages
B.A., Douglass, 1942; M.A., Montana State, 1964.
- HARRY S. DRIGGS, JR. (1969)...Assistant Professor of Architectural Technology
B.S., Cincinnati, 1957.
- JOHN E. ENGSTROM (1967)...Lecturer in Mechanical Engineering Technology
B.S.M.E., Purdue, 1949.
- WALTER H. EVANS (1968)...Assistant Professor of Computer Technology
B.A., Purdue, 1941; M.A., Michigan, 1959.
- DAVID FRANK (1967)...Assistant Professor of Education
B.S.Ed., Shippensburg State, 1954; M.Ed., Western Maryland, 1958.
- ROBERT E. FULLEN (1969)...Assistant Professor of Nursing
B.S., Indiana, 1955; M.S., Butler, 1956; M.S.N., Pennsylvania, 1967.
- JEENE W. GAINES (1964)...Associate Professor of Psychology
B.A., Iowa, 1955; M.S., Purdue, 1956; Ph.D., 1959.
- JAMES GALLAGHER (1967)...Assistant Professor of Computer Technology
B.A., St. John's 1947.
- FRANCES M. GOURLEY (1948)...Lecturer in Biology
B.S., Illinois, 1935; M.S., 1940.
- ROBERT W. GRENIER (1968)...Lecturer in Industrial Engineering Technology
B.A., Assumption, 1951; M.B.A., Western Reserve, 1961.

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- DOROTHY M. HARRER (1969)....Lecturer
in Foods and Nutrition
B.S., Montana State, 1938.
- ROBERT M. HAWTHORNE (1968).....
Assistant Professor of Chemistry
B.S., Columbia, 1956; Ph.D., Rutgers, 1963.
- HERBERT HECKENDORN (1966)....Lecturer
in Industrial Supervision
B.B.A., Clarkson College of Technology, 1956.
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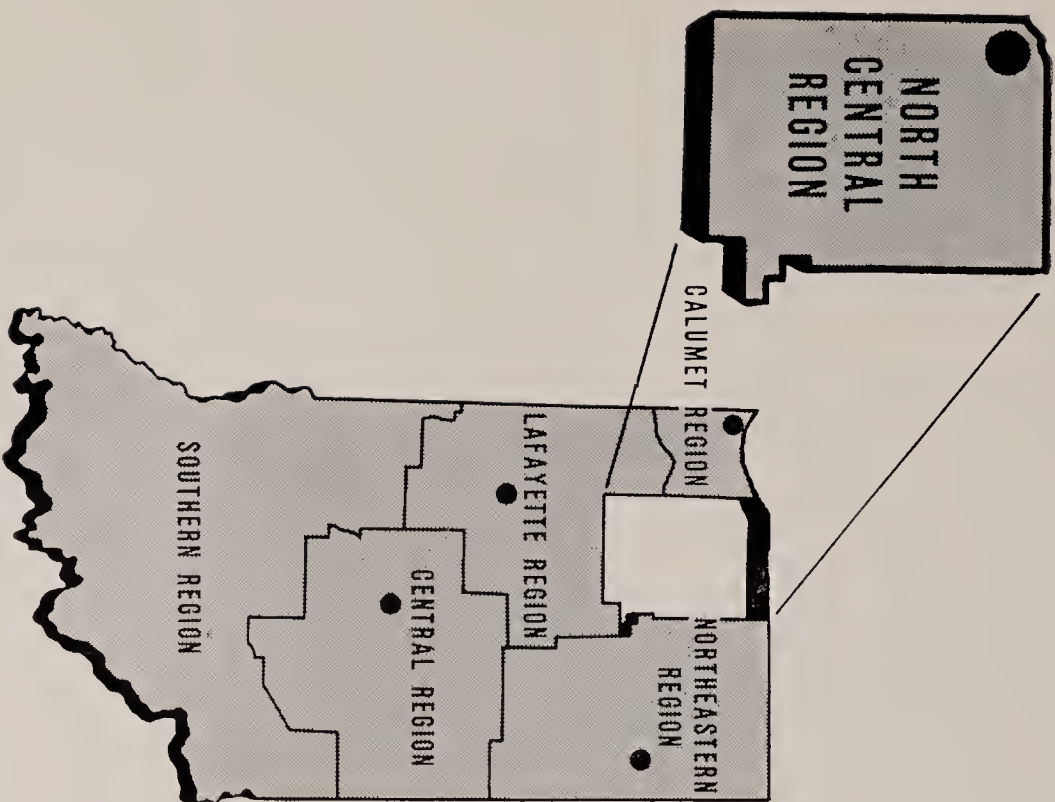
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